

COLLEGE OF BIOMEDICAL AND TRANSLATIONAL SCIENCES

Dual Degree Handbook 2025-2026

Regardless of the discipline, each CBTS student (MS or PhD) will receive the degree of Biomedical Sciences. The discipline is listed on the transcript as the Major.

The information provided in this document serves to supplement the requirements of the College of Biomedical and Translational Sciences and the Dual Degree Programs detailed in the UNT Health Fort Worth Catalog with requirements and information specific to Dual Degrees.

Table of Contents

| Page |
|---|
| Description of the Dual Degree Programs |
| Application and Acceptance Timeline for DO/PhD and DO/MS Dual Degrees |
| Course Credit from DO program to MS or PhD program in CBTS |
| DO/MS Sample Degree Plan6 |
| DO/PhD Sample Degree Plan |
| Application and Acceptance Timeline for PharmD/PhD and PharmD/MS Dual Degrees |
| Course Credit from PharmD program to MS or PhD program in CBTS |
| PharmD/MS Sample Degree Plan |
| PharmD/PhD Sample Degree Plan12 |
| Additional Information14 |

Description of the Dual Degree Programs

Director of Dual Degree Programs

Michael Smith, Ph.D. Office: EAD 324E Phone: 817-735-2514

Email: MichaelL.Smith@unthsc.edu

Assistant Dean of Graduate Education and Admissions College of Biomedical and Translational Sciences

Rance Berg, Ph.D. Office: CBH 361 Phone: 817-735-2121

Email: Rance.Berg@unthsc.edu

The College of Biomedical and Translational Sciences at UNTHSC offers PharmD/MS and PharmD/PhD degrees in collaboration with the UNT System College of Pharmacy and DO/MS and DO/PhD degrees in collaboration with the Texas College of Osteopathic Medicine. All dual degree students will matriculate into one of eight traditional disciplines upon completion of the appropriate coursework and milestones. Once these students have matriculated into a discipline, they will be advised by their major professor and the graduate advisor of the discipline and will complete additional requirements of the specific discipline. The traditional disciplines are: Biochemistry & Cancer Biology; Cell Biology, Immunology & Microbiology; Genetics; Integrative Physiology; Pharmaceutical Sciences and Pharmacotherapy; Pharmacology & Neuroscience; Structural Anatomy & Rehabilitation Sciences; and Visual Sciences. Students receive a competency based, individualized training through original research, formal classroom education, problem-based learning, seminars, and journal clubs.

Faculty members in the College of Biomedical and Translational Sciences are engaged in various aspects of Biomedical research related to the traditional disciplines. A dual degree student can pursue research in any of the faculty labs that are accepting new students at the time the dual degree student matriculates into the School of Biomedical Research. Specific research interests of faculty can be found at the UNTHSC Experts Website.

Application and Acceptance Timeline for DO/PhD and DO/MS Dual Degrees

Students who want to apply to both the DO and PhD or MS degrees simultaneously will apply through TMDSAS and indicate they want to be considered for the DO/PhD dual degree.

Current DO students would apply for the CBTS PhD or MS degree in biomedical sciences in Year 2 of the TCOM DO program. The applicants that are accepted would begin the Year 1 PhD or MS courses in the following Fall.

Application Requirements:

To be considered for admission, the applicant must complete the online application process by the published deadline (but preferably by January 1) by submitting the following:

- o Online PhD or MS application (linked on Admissions websites)
- o \$50 application fee (waived for McNair scholars with documentation of participation). The online application service charges additional fees.
- o Official transcripts from each and every college/University attended. A Bachelor's degree from an accredited institution is required.
 - o A course-by-course evaluation from <u>WES</u> is also required for transcripts from institutions outside the U.S.
- Three letters of recommendation
- o Resume/CV
- O A TOEFL score is also required for international applicants
 - o The reporting code for the TOEFL is 6909
- O Supplemental materials may be submitted (i.e., personal statement, certificates, etc.) but are not required unless designated by application requirements per program.

Course Credit from DO program to MS or PhD program in CBTS

Two independent laboratory rotations (BMSC 5150 - 2 SCH for MS students or BMSC 6150 – 2 SCH for PhD students) are required for all traditional CBTS graduate students. TCOM DO students should attempt to perform research in the laboratory of a CBTS graduate faculty member during PY1 and PY2. Depending upon how many research rotations were completed, incoming DO/MS and DO/PhD students should register for the appropriate number of SCH of BMSC 5150/6150 in the Fall to satisfy this requirement. Students who are accepted directly into the DO/PhD program at the time of matriculation into TCOM are strongly encouraged to complete at least 1 research rotation (BMSC 6150) during the summer between TCOM years 1 and 2.

DO/PhD students receive up to 30 SCH of advanced standing for the basic science didactic coursework in the DO curriculum; DO/MS students receive up to 12 SCH of advanced standing. Because the basic science DO courses in the TCOM curriculum have been determined to include content equivalent to BMSC 6201, 6202, 6203, and 6204 in the CBTS curriculum, these courses will be waived for DO/PhD and DO/MS students. The DO student may receive waivers for advanced course credit with the recommendation of the advisory committee through submission of the degree plan. The graduate Dean or designee has the final approval on advanced standing credit and requirement waivers.

For additional information regarding Academic Procedures, please refer to the College of Biomedical and Translational Sciences Catalog at <u>Academic Procedures (CBTS)</u>.

For additional information regarding the DO degree curriculum and DO/MS and DO/PhD dual degree programs, please refer to the Texas College of Osteopathic Medicine Catalog at <u>Program: Doctor of Osteopathic Medicine - University of North Texas Health Science Center - Modern Campus CatalogTM</u>

DO/MS Sample Degree Plan

| | | | | Semester |
|-------------------|---------------|---|-----------|-------------------|
| | Course | | | to be |
| Dept | Number | Course Title | SCH | Completed |
| BMSC | 5150 | Lab Rotations | 2 | Fall year 1 |
| BMSC | 6200 | Intro to Experimental Design & Biostatistical Methods | 2 | Fall year 1 |
| BMSC | 5998 | Individual Research for MS students | 0-4 | Fall year 1 |
| | | Elective courses | 4-8 | Fall year 1 |
| | | Subtotal | 12 | |
| Milestone | es to be con | npleted by the end of fall semester, ye | ar 1: Se. | lection of Major |
| <u>Professor,</u> | Change of | Discipline. | | , |
| BMSC | 5160 | Biomedical Ethics | 1 | Spring year 1 |
| BMSC | 5998 | Individual Research for MS students | 1-7 | Spring year 1 |
| | | Discipline-specific required courses | 4-10 | Spring year 1 |
| | | Subtotal | 12 | |
| <u>Milestone</u> | es to be con | npleted by the end of spring semester, | year 1 | : Designation of |
| <u>Advisory</u> | Committee, | . Degree Plan. | | |
| BMSC | 5998 | Individual Research for MS students | 1-5 | Summer year 1 |
| BMSC | 5108 | Transferable Skills | 1 | Summer year 1 |
| | | Elective Courses | 0-4 | Summer year 1 |
| | | Subtotal | 6 | |
| | | | | |
| BMSC | 5998 | Individual Research for MS students | 6-10 | Fall year 2 |
| | | Elective Courses | 2-6 | Fall year 2 |
| | | Subtotal | 12 | |
| Milestone | to be com | pleted by the end of fall semester, year | ar 2: Re. | search Proposal; |
| <u>document</u> | tation of the | e completed proposal must be on file prio | r to enro | ollment in Thesis |
| <u>(BMSC 53</u> | <u>895).</u> | | | |
| BMSC | 5395 | Thesis | 7 | Spring year 2 |
| BMSC | 5215 | Principles of Scientific | 2 | Spring year 2 |
| | | Communication | | |
| | | Subtotal | 9 | |
| | | Total for Degree | | cluding 12 SCH |
| | | | | anced standing) |

DO/PhD Sample Degree Plan

| | | | | Semester |
|-------------------------------------|-----------------------------|---|-----------------|-------------------|
| | Course | | | to be |
| Dept | Number | Course Title | SCH | Completed |
| BMSC | 6150 | Lab Rotations | 2 | Fall year 1 |
| BMSC | 6200 | Intro to Experimental Design & Biostatistical Methods | 2 | Fall year 1 |
| BMSC | 6998 | Individual Research for PhD students | 0-4 | Fall year 1 |
| | | Elective courses | 4-8 | Fall year 1 |
| | | Subtotal | 12 | |
| | es to be con ; Change of | npleted by the end of fall semester, ye Discipline. | <u>ar 1: Se</u> | election of Major |
| BMSC | 5160 | Biomedical Ethics | 1 | Spring year 1 |
| BMSC | 6998 | Individual Research for PhD students | 3-7 | Spring year 1 |
| | | Discipline-specific required courses | 4-8 | Spring year 1 |
| | | Subtotal | 12 | |
| Mileston | es to be con | npleted by the end of spring semester, | year . | l: Designation of |
| <u>Advisory</u> | Committee, | <u>, Degree Plan.</u> | | |
| BMSC | 6998 | Individual Research for PhD students | 1-5 | Summer year 1 |
| BMSC | 5108 | Transferable Skills | 1 | Summer year 1 |
| | | Elective Courses | 0-4 | Summer year 1 |
| | | Subtotal | 6 | |
| <u>Milestone</u> <u>Examinat</u> | - | pleted by the end of summer semester, | year 1. | : Oral Qualifying |
| BMSC | 6998 | Individual Research for PhD students | 5-9 | Fall year 2 |
| BMSC | 6102 | Grant Writing | 1 | Fall year 2 |
| | | Elective Courses | 2-6 | Fall year 2 |
| | | Subtotal | 12 | |
| BMSC | 6998 | Individual Research for PhD students | 4-8 | Spring year 2 |
| BMSC | 5215 | Principles of Scientific | 2 | Spring year 2 |
| | | Communication | | |
| | | Elective Courses | 2-6 | Spring year 2 |
| | | Subtotal | 12 | |
| BMSC | 6101 | Responsible Conduct of Research | 1 | Summer year 2 |
| BMSC | 6998 | Individual Research for PhD students | 1-5 | Summer year 2 |
| | | Elective Courses | 0-4 | Summer year 2 |
| | | Subtotal | 6 | |

| Milestones to be completed by the end of summer semester, year 2: Research Proposal defense and approval: Student must enroll in a minimum of 2 SCH of Doctoral Dissertation once Research Proposal is approved, Annual Progress Report | | | | | |
|---|------|-----------------------|--------|---------------------------|--|
| BMSC | 6395 | Doctoral Dissertation | 2-6 | Fall year 3 | |
| | | Elective Courses | 0-4 | Fall year 3 | |
| | | Subtotal | 6 | | |
| BMSC | 6395 | Doctoral Dissertation | 2-6 | Spring year 3 | |
| | | Elective Courses | 0-4 | Spring year 3 | |
| | | Subtotal | 6 | | |
| BMSC | 6395 | Doctoral Dissertation | 6 | Summer year 3 | |
| | | Subtotal | 6 | | |
| | | Total for Degree | 108 | (including 30 of advanced | |
| | | | stand. | | |

When a DO/PhD student is transitioning from TCOM year 2 into the dedicated PhD training, they are expected to complete the Clinical Orientation Course (MEDE 8400) with the rising year 3 TCOM students. This will prepare them for participating in the longitudinal clerkship (MEDE 9459, or equivalent course) throughout the period of dedicated PhD training in CBTS.

When a DO/PhD student is preparing to transition from the PhD training back into year 3 of TCOM, the student is expected to participate in MEDE 8400 with the rising 3rd year class in preparation for their clinical training in TCOM years 3-4.

Once a doctoral student has successfully advanced to candidacy, they may use "PhD Candidate" or "Doctoral Candidate" as a title on any general business correspondence such as business cards, e-mail messages, etc. Once a PhD student has advanced to candidacy (completed the oral qualifying exam and research proposal milestones) they are able to enroll in a total of 6 SCH per semester and must enroll in a minimum of 2 SCH/semester of BMSC 6395 (Doctoral Dissertation). Once a PhD candidate submits the "Declaration of Intent to Graduate" Form, they can enroll in a total of 3 SCH of Doctoral Dissertation in the semester in which they will defend their dissertation (the final semester of enrollment). When the time comes, important dates, instructions and forms for graduation can be found on the CBTS Graduation Information Webpage.

Application and Acceptance Timeline for PharmD/PhD and PharmD/MS Dual Degree

Current PharmD students would apply for the CBTS PhD or MS degree in biomedical sciences in PY3 of pharmacy PharmD program in late fall with decision by January 31 and begin PhD or MS Year 1 courses in following Fall.

Application Requirements:

To be considered for admission, the applicant must submit the following official credentials to the UNTHSC Office of Admissions and Recruitment by the published deadline:

- o Online PhD or MS application (linked on Admissions websites)
- o \$50 application fee (waived for McNair scholars with documentation of participation)
- o Official transcripts from each and every college/University attended
 - o A course-by-course evaluation from <u>WES</u> is also required for transcripts from institutions outside the U.S.
- o Three letters of recommendation
- Resume/CV
- A TOEFL is also required for international applicants
 - o The reporting code for the TOEFL is 6909
- O Supplemental materials may be submitted (i.e., personal statement, certificates, etc.) but are not required unless designated by application requirements per program

Course Credit from PharmD program to MS or PhD program in CBTS

Two independent laboratory rotations (BMSC 5150 - 2 SCH for MS students or BMSC 6150 – 2 SCH for PhD students) are required for all traditional CBTS graduate students. Pharmacy PharmD students should attempt to perform research in the laboratory of a CBTS graduate faculty member during PYI and PY2. Depending upon how many research rotations were completed, incoming PharmD/MS and PharmD/PhD students should register for the appropriate number of SCH of BMSC 5150/6150 in the Fall to satisfy this requirement.

PharmD/PhD students receive up to 20 SCH of advanced standing for the basic science didactic coursework in the PharmD curriculum; PharmD/MS students receive up to 12 SCH of advanced standing. PharmD/PhD or PharmD/MS students will receive advanced standing/credit for BMSC 6201 (2 SCH) through PHAR 7412 Metabolic Basis of Pharmacotherapy (Biochemistry), BMSC 6204 (2 SCH) through PHAR 7411 Physiologic Basis for Pharmacotherapy and PHAR 7331 Immune Based Diseases and Immunology. The PharmD student may receive waivers for advanced course credit with the recommendation of the advisory committee through submission of the degree plan. The graduate dean or designee has the final approval on advanced standing credit and requirement waivers.

For additional information regarding Academic Procedures, please refer to the Graduate College of Biomedical and Translational Sciences Catalog at <u>Academic Procedures (CBTS)</u>.

For additional information regarding PharmD/MS and PharmD/PhD dual degree programs, please refer to the UNT System College of Pharmacy Catalog at <u>Program: Pharmacy, PharmD - University of North Texas Health Science Center - Modern Campus CatalogTM.</u>

PharmD/MS Sample Degree Plan

| | | | | Semester |
|--------------------------|---|--|----------------|--------------------------|
| | Course | | | to be |
| Dept | Number | Course Title | SCH | Completed |
| BMSC | 5150 | Lab Rotations | 2 | Fall year 1 |
| BMSC | 6200 | Intro to Experimental Design & | 2 | Fall year 1 |
| | | Biostatistical Methods | | |
| BMSC | 6202 | Fundamentals of Biomedical Sciences II | 2 | Fall year 1 |
| BMSC | 6203 | Fundamentals of Biomedical Sciences III | 2 | Fall year 1 |
| BMSC | 5998 | Individual Research for MS students | 0-2 | Fall year 1 |
| | | Elective courses | 2-4 | Fall year 1 |
| | | Subtotal | 12 | |
| <u>Milesto</u> | ones to be c | completed by the end of <mark>fall semester, ye</mark> | ear 1: S | election of Major |
| Profess | or, Change | of Discipline. | | |
| | | | | |
| BMSC | 5160 | Biomedical Ethics | 1 | Spring year 1 |
| BMSC | 5998 | Individual Research for MS students | 0-4 | Spring year 1 |
| | | Discipline-specific required courses | 4-8 | Spring year 1 |
| | | Subtotal | 12 | |
| <u>Milesto</u> | ones to be o | completed by the end of <mark>spring semester</mark> | , year | 1: Designation of |
| <u>Adviso</u> | ry Committ | tee, Degree Plan. | | |
| BMSC | 5998 | Individual Research for MS students | 1-5 | Summer year 1 |
| BMSC | 5108 | Transferable Skills | 1 | Summer year 1 |
| | | Elective Courses | 0-4 | Summer year 1 |
| | | Subtotal | 6 | · |
| | | | | |
| BMSC | 5998 | Individual Research for MS students | 6-10 | Fall year 2 |
| | | Elective Courses | 2-6 | Fall year 2 |
| | | Subtotal | 12 | |
| Milast | one to be co | | 2. D | |
| <u> </u> | THE TO DE CO | <u>Ompietea dy the ena of faii semester, ye</u> | <i>ar 2: K</i> | <u>esearch Proposal;</u> |
| | | ompleted by the end of fall semester, ye the completed proposal must be on file pric | | |
| | entation of a | | | |
| <u>docum</u> | entation of a | | | |
| docume (BMSC) BMSC | <u>entation of a</u> 2 <u>5395).</u> | the completed proposal must be on file prio | or to eni | rollment in Thesis |
| <u>docum</u> (BMSC | entation of (5395). | Principles of Scientific Communication | or to em | Spring year 2 |
| docume (BMSC) BMSC | entation of (5395). | Principles of Scientific Communication Thesis | 2 7 9 | Spring year 2 |

PharmD/PhD Sample Degree Plan

| | | | | Semester |
|----------------|-------------------|---|----------------------------|---|
| | Course | | | to be |
| Dept | Number | Course Title | SCH | Completed |
| BMSC | 6150 | Lab Rotations | 2 | Fall year 1 |
| BMSC | 6200 | Intro to Experimental Design & Biostatistical Methods | 2 | Fall year 1 |
| BMSC | 6202 | Fundamentals of Biomedical Sciences II | 2 | Fall year 1 |
| BMSC | 6203 | Fundamentals of Biomedical Sciences III | 2 | Fall year 1 |
| BMSC | 6998 | Individual Research for PhD students | 0-2 | Fall year 1 |
| | | Elective courses | 2-4 | Fall year 1 |
| | | Subtotal | 12 | |
| <u>Milesto</u> | nes to be c | completed by the end of fall semester, ye | ear 1: S | election of Major |
| <u>Profess</u> | <u>or, Change</u> | of Discipline. | | |
| BMSC | 5160 | Biomedical Ethics | 1 | Spring year 1 |
| BMSC | 6998 | Individual Research for PhD students | 3-7 | Spring year 1 |
| | | Discipline-specific required courses | 4-8 | Spring year 1 |
| | | Subtotal | 12 | |
| | | t <u>ee, Degree Plan.</u> | T | <u> </u> |
| BMSC | 6998 | Individual Research for PhD students | 1-5 | Summer year 1 |
| BMSC | 5108 | Transferable Skills | 1 | Summer year 1 |
| | | Elective Courses | 0-4 | Summer year 1 |
| | | Subtotal | 6 | |
| <u>Examin</u> | nation. | empleted by the end of summer semester, | | . , , |
| D I I I C C | (000 | | | |
| BMSC | 6998 | Individual Research for PhD students | 5-9 | Fall year 2 |
| BMSC BMSC | 6102 | Grant Writing | 1 | Fall year 2 |
| | | Grant Writing Elective Courses | 1 2-6 | |
| | | Grant Writing | 1 | Fall year 2 |
| | | Grant Writing Elective Courses | 1 2-6 | Fall year 2 |
| BMSC | 6102 | Grant Writing Elective Courses Subtotal | 1 2-6 12 | Fall year 2 Fall year 2 |
| BMSC BMSC | 5215 | Grant Writing Elective Courses Subtotal Principles of Scientific Communication | 1 2-6 12 2 | Fall year 2 Fall year 2 Spring year 2 |
| BMSC BMSC | 5215 | Grant Writing Elective Courses Subtotal Principles of Scientific Communication Individual Research for PhD students | 1 2-6 12 2 4-8 | Fall year 2 Fall year 2 Spring year 2 Spring year 2 |

| BMSC | 6101 | Responsible Conduct of Research | 1 | Summer year 2 | | |
|----------------|--|---|-----------------------|-----------------|--|--|
| BMSC | 6998 | Individual Research for PhD students | 1-5 | Summer year 2 | | |
| | | Elective Courses | 0-4 | Summer year 2 | | |
| | | Subtotal | 6 | | | |
| Milesto | Milestones to be completed by the end of summer semester, year 2: Research | | | | | |
| | | nd approval: Student must enroll in a min | | | | |
| <u>Doctora</u> | al Dissertat | ion once Research Proposal is approved, A | nnual l | Progress Report | | |
| | | | | - - | | |
| BMSC | 6395 | Doctoral Dissertation | 2-6 | Fall year 3 | | |
| | | Elective Courses | 0-4 | Fall year 3 | | |
| | | Subtotal | 6 | | | |
| | | | | | | |
| BMSC | 6395 | Doctoral Dissertation | 2-6 | Spring year 3 | | |
| | | Elective Courses | 0-4 | Spring year 3 | | |
| | | Subtotal | 6 | | | |
| | | | | | | |
| BMSC | 6395 | Doctoral Dissertation | 6 | Summer year 3 | | |
| | | Subtotal | 6 | | | |
| | | Total for Degree | 98 (ii | ncluding 20 SCH | | |
| | | | of advanced standing) | | | |

Once a doctoral student has successfully advanced to candidacy, they may use "PhD Candidate" or "Doctoral Candidate" as a title on any general business correspondence such as business cards, e-mail messages, etc. Once a PhD student has advanced to candidacy (completed the oral qualifying exam and research proposal milestones) they are able to enroll in a total of 6 SCH per semester, and must enroll in a minimum of 2 SCH/semester of BMSC 6395 (Doctoral Dissertation). Once a PhD candidate submits the "Declaration of Intent to Graduate" Form, they can enroll in a total of 3 SCH of Doctoral Dissertation in the semester in which they will defend their dissertation (the final semester of enrollment). When the time comes, important dates, instructions and forms for graduation can be found on the CBTS Graduation Information Webpage.

Additional Information

New Student Orientation

Dual degree students are required to participate in the CBTS orientation the semester their graduate study begins.

Registration

Incoming dual degree students should consult the Assistant Dean of Graduate Education and Admissions regarding which courses to enroll in. After matriculation into a discipline and choosing a major professor, dual degree students should consult their major professors, graduate advisors and degree plans to determine which courses are needed. A list of courses, including course title, number, section number, and number of credits should be e-mailed to the Executive Director for Student & Academic Services during the registration period for the semester.

Graduation

Dual degree students should submit an Intent to Graduate form in the College of Biomedical and Translational Sciences the semester they will complete requirements for the clinical degree. These forms are due during the CBTS registration period for the semester of graduation. It is not uncommon for dual degree students to complete their research, write and defend their thesis/dissertation prior to re-entering their clinical curriculum. They may also elect to complete the research before returning to the clinical program and focus on writing the thesis/dissertation while completing their clinical program requirements. If a dual degree student has not defended their thesis/dissertation prior to entering clinical rotations, they must maintain enrollment in BMSC 5395 (MS)/6395 (PhD). However, it is important to consult CBTS Student and Academic Services when planning the timing of graduation to ensure that all CBTS requirements are not completed before clinical program requirements. When CBTS requirements are completed, the graduate degree is conferred which makes the student ineligible to participate in commencement exercises as a dual degree candidate. Graduates will receive a separate diploma for each degree earned.

Regalia

In academic tradition, one wears the regalia of the highest degree earned. According to the United States Department of Education, the Doctor of Philosophy is the highest degree earned for a few reasons: 1) an undergraduate degree is prerequisite; 2) there is a research component culminating in a dissertation; and 3) it is considered a terminal degree, meaning that no further courses of study are available in the field after the completion of the degree. Therefore, dual degree students completing PhD requirements typically choose to order the PhD regalia for commencement exercises. Regalia for one degree should not be combined with that of another; however, it is acceptable to carry the hood of the regalia for the second degree folded over your arm for commencement exercises.

HSC hosts commencement exercises once a year at the end of the spring semester. Dual degree candidates march at the end of the student processional and their degrees are conferred last, with appropriate recognition for both degrees earned. Degree candidates will recite the appropriate professional oath with their clinical classmates.