

CLINICAL AND TRANSLATIONAL SCIENCES

Degree Requirements

Requirements listed here are in addition to requirements listed in GCAC-208 Dual-Title Graduate Degree Programs (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-200/gcac-208-dual-titles/>).

To qualify for a dual-title degree, students must satisfy the requirements of the primary graduate program in which they are enrolled. In addition, they must satisfy the degree requirements for the dual-title in CTS listed below.

General requirements for the dual-title Ph.D. in [major program name] and Clinical and Translational Sciences are listed below:

Code	Title	Credits
Required Courses		
CTS 590	Colloquium (two semesters)	2
Select 6 credits from the following:		6
CTS 595A	Clinical Science Internship	
CTS 595B	Translational Science Internship	
BMS 571	Graduate Clinical Rotation	
Electives		
18 additional credits from a list of approved electives in the following areas: ¹		
Statistics		3
Epidemiology		3
Bioinformatics		3
Experimental design and interpretation		3
The regulatory environment		3
Scientific communication		3
Total Credits		26

¹ The choice of CTS electives may be proposed by the student, subject to approval by the student's academic advisers from the primary and CTS programs. They should complement the student's work in the primary program. A list of approved electives (<https://sites.psu.edu/ctsprogram/current-students/elective-course-list/>) is available on the CTS program home page.

- Successful completion of qualifying and comprehensive examinations in clinical and translational sciences and the related field. The specific format and content is determined in consultation with the primary program.
- Successful defense of a dissertation in the major field with a substantial component that is clinical or translational in nature.
- Scholarship and Research Integrity (SARI) training (required of all Penn State graduate students)
- Institutional Review Board and/or Institutional Animal Care and Use Committee training (as appropriate)

Qualifying Examination

Typically, students will be accepted to the dual-title during their first year of study. In some circumstances students may be considered

during the second year. To be admitted to the CTS dual-title graduate degree program students must meet the Ph.D. qualifying examination requirements in both their major area of study and the dual-title area. The qualifying exam will include both elements. Dual-title graduate degree students may require an additional semester to fulfill requirements for both areas of study and, therefore, the qualifying examination may be delayed one semester beyond the normal period allowable.

The qualifying examination committee for the dual-title Ph.D. degree must include at least one Graduate Faculty member from the CTS program. Faculty members who hold appointments in both programs' Graduate Faculty may serve in a combined role.

Ph.D. committee Composition

In addition to the general Graduate Council requirements for Ph.D. committees (<http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/phd-dissertation-committee-formation/>), the Ph.D. committee of a CTS dual-title doctoral degree student must include at least one member of the CTS Graduate Faculty. Faculty members who hold appointments in both programs' Graduate Faculty may serve in a combined role. If the chair of the Ph.D. committee is not also a member of the Graduate Faculty in CTS, the member of the committee representing CTS must be appointed as co-chair.

Comprehensive Exam

The CTS representative on the student's Ph.D. committee will develop questions for and participate in the evaluation of the comprehensive examination. The comprehensive exam will require the student to demonstrate an understanding of the methods of translational sciences and an ability to apply them to problems in the student's major field of study. When appropriate, the student will be expected to demonstrate a working knowledge of methods to evaluate and compare the outcomes of his/her research to related approaches already in existence.

Dissertation

Students in the dual-title program are required to write and orally defend a dissertation on a topic that is approved in advance by their Ph.D. committee and reflects their original research and education in both their primary graduate program and CTS. Upon completion of the doctoral dissertation, the candidate must pass a final oral examination (the dissertation defense) to earn the Ph.D. degree. The dissertation must be accepted by the Ph.D. committee, the head of the graduate program, and the Graduate School.