

CLINICAL RESEARCH

Graduate Program Head	Cheryl Thompson
Program Code	CR
Campus(es)	Hershey (M.S.)
Degrees Conferred	Master of Science (M.S.)
The Graduate Faculty	View (https://secure.gradsch.psu.edu/gpms/?searchType=fac&prog=CR)

The Master of Science program in Clinical Research includes graduate-level course work in biostatistics, epidemiology, and health services and behavioral research, and provides knowledge and insight required in health-related research. Students learn population-based methods for planning, executing, analyzing, and disseminating research results, and methods for evaluating and improving health care practices.

Admission Requirements

Applicants apply for admission to the program via the Graduate School application for admission (<https://gradschool.psu.edu/graduate-admissions/how-to-apply/>). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admissions Policies (<https://gradschool.psu.edu/graduate-education-policies/>).

Prospective applicants for this program should have at least a bachelor's degree in a biological, physical, or behavioral science.

Graduate School applications must include the following items to be eligible for consideration. Incomplete applications will not be considered.

- Completed online application (<http://gradschool.psu.edu/prospective-students/how-to-apply/>)
- Resume or CV
- Official transcripts from all colleges and universities attended (<http://www.gradschool.psu.edu/prospective-students/how-to-apply/new-applicants/requirements-for-graduate-admission/>); applicants must have completed a bachelor's degree with a 3.0 GPA or higher, and must have completed at least college-level course in algebra, calculus, or statistics
- Two letters of recommendation
- GRE, GMAT, MCAT or LSAT scores - Taken within the past five years

The language of instruction at Penn State is English. English proficiency test scores (TOEFL/IELTS) may be required for international applicants. See GCAC-305 Admission Requirements for International Students (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/gcac-305-admission-requirements-international-students/>) for more information.

Degree Requirements

Master of Science (M.S.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (<https://gradschool.psu.edu/graduate-education-policies/>)

Each student in Clinical Research is expected to acquire breadth of knowledge in the disciplines of Biostatistics, Epidemiology, and Health Services and Behavioral Research, and skills in the areas of experimental design, data collection, and quantitative analysis. The PHS Clinical Research Master of Science degree can lead to careers in a wide variety

of fields and settings, including academic health centers; the health insurance industry; health services networks; local, state, and federal government agencies; and the pharmaceutical industry.

Each student must complete at least 30 credits at the 500 or 600. Each student must submit an original Master's thesis according to the guidelines outlined by the Graduate School (<http://gradschool.psu.edu/current-students/etd/>).

Code	Title	Credits
Required Courses		
PHS 500	Research Ethics for Clinical Investigators	1
PHS 519	Patient Centered Research	3
PHS 520	Principles of Biostatistics	3
PHS 521	Applied Biostatistics	3
PHS 550	Principles of Epidemiology	3
PHS 580	Clinical Trials: Design and Analysis	3
Choose 8 credits from the following:		8
PHS 504	Behavioral Health Intervention Strategies	
PHS 518	Scientific Communication	
PHS 522	Multivariate Biostatistics	
PHS 529	Biostatistical Computing for Public Health	
PHS 530	Principles of Health Services Research	
PHS 535	Quality of Care Measurement	
PHS 536	Health Survey Research Methods	
PHS 540	Decision Analysis for Public Health	
PHS 551	Advanced Epidemiological Methods	
PHS 570	Health Economics and Economic Evaluation	
Culminating Experience		
PHS 600	Thesis Research	6
Total Credits		30

Minor

A graduate minor is available in any approved graduate major or dual-title program. The default requirements for a graduate minor are stated in Graduate Council policies listed under GCAC-600 Research Degree Policies (<https://gradschool.psu.edu/graduate-education-policies/>) and GCAC-700 Professional Degree Policies (<https://gradschool.psu.edu/graduate-education-policies/>), depending on the type of degree the student is pursuing:

- GCAC-611 Minor - Research Doctorate (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/gcac-611-minor-research-doctorate/>)
- GCAC-641 Minor - Research Master's (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/gcac-641-minor-research-masters/>)
- GCAC-709 Minor - Professional Doctorate (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-700/gcac-709-professional-doctoral-minor/>)
- GCAC-741 Minor - Professional Master's (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-700/gcac-741-masters-minor-professional/>)

Student Aid

Refer to the Tuition & Funding (<https://gradschool.psu.edu/graduate-funding/>) section of The Graduate School's website. Students in this program are not eligible for graduate assistantships.

Courses

Graduate courses carry numbers from 500 to 699 and 800 to 899. Advanced undergraduate courses numbered between 400 and 499 may be used to meet some graduate degree requirements when taken by graduate students. Courses below the 400 level may not. A graduate student may register for or audit these courses in order to make up deficiencies or to fill in gaps in previous education but not to meet requirements for an advanced degree.

Public Health Sciences (PHS) Course List (<https://bulletins.psu.edu/university-course-descriptions/graduate/phs/>)

Learning Outcomes

1. **KNOW** - Graduates will be able to demonstrate conceptual understanding and proficiency in the core knowledge areas of clinical research that utilize principles/techniques in epidemiology, biostatistics and health services research.
2. **APPLY/CREATE** - Graduates will be able to search the scientific literature and synthesize available evidence in order to identify gaps to advance clinical research and areas in need of further research.
3. **THINK** - Graduates will be able to critically evaluate scientific studies in order to develop best practices for addressing specific clinical issues and/or public health challenges with a clinical focus.
4. **THINK** - Graduates will be able to design and conduct original research studies, and conduct appropriate statistical analyses to address clinical research questions and hypotheses of relevance to specific clinical and/or public health challenges.
5. **COMMUNICATE, PROFESSIONAL PRACTICE** - Graduates will learn how to work as part of a research team, to collaborate well with colleagues and to treat others with respect and consideration as part of the research process.
6. **PROFESSIONAL PRACTICE** - Graduates will conduct themselves with the highest ethical standards in terms of planning, conducting and reporting of research and protection of human and animal subjects.
7. **KNOW, APPLY/CREATE, THINK, COMMUNICATE, PROFESSIONAL PRACTICE** - Graduates will learn how to write scientific reports and journal articles and to conduct oral presentations of their research results.

Contact

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Director of Graduate Studies (DGS) or Professor-in-Charge (PIC)	Li Wang
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Program Website	View (https://med.psu.edu/public-health-ms/)