



The GW Clinical and Translational Research program was developed as a component of the Clinical and Translational Science Award to Children's National Health System and the George Washington University.

**Objective:** develop the clinical and translational research capabilities of research professionals, junior faculty, and scientists. This program responds to the National Institutes of Health (NIH) vision for new approaches to developing and preparing researchers who can meet the needs of a more "translational" approach to research. Graduates of the program will have the skills, knowledge, and experience needed to fill any number of clinical and translational research professions from funded scientists, clinical personnel, and those who mediate for better policy about health.

**Options available:** MSHS in Clinical & Translational Research (36 credits), Graduate Certificate in Clinical & Translational Research (21 credits), Graduate Certificate in Clinical Research Practice (18 credits)

### Program Requirements

All courses required for the MSHS in CTR. Courses with \* indicate CTR Certificate, ^ indicate CRP Certificate.

#### Clinical Research Administration Courses (6 credit hours)

##### **CRA 6201: Critical Analysis of Clinical Research\*^**

Analyses of the essential components of clinical research including good clinical practice, human subject protection, study design, and trials administration.

##### **CRA 6205: Clinical Investigation\*^**

Analysis and evaluation of study design strategies and current practices for major therapeutic areas of clinical research (e.g., vaccine development, cardiovascular disease, anti-infectives, CNS, etc.).

#### Graduate Research Courses (9 credit hours)

##### **HSCI 6263: Biostatistics for Clinical & Translational Research^**

Basic concepts and methods of biostatistics applied to translational research. Topics include distributions, populations and sample selection, variables, interaction and confounding, hypothesis formulation, correlation, t-tests, ANOVA, regression, and ch.

##### **HSCI 6264: Epidemiology for Clinical & Translational Research^**

Basic concepts and methods of epidemiology and their application in measuring, studying and improving the health of populations applied to applications for translational research.

##### **HSCI 6273: Bioinformatics for Genomics**

The bioinformatics tools for different analytical situations. Strengths and limitations of the most common bioinformatics strategies. Principally limited to analysis of genomic data, the course is planned to enable students to generalize the acquired knowledge and its underlying principles and techniques to other types of 'big data' applications for the purpose of interpretation of results.

#### Translational Research Courses (12 credit hours)

##### **HSCI 6261: Foundations in Translational Research\***

Overview and analysis of the translational research principles and practice through the application of basic, clinical, community health and health services research concepts.

##### **HSCI 6265: Grantsmanship in Translational Research\*^**

Writing grant proposals to fund clinical research, with an emphasis on translational research proposals. Emphasis is on persuasive communication, conceptually based hypotheses and research methods and the grant application process, including communicating.

##### **HSCI 6275: Transdisciplinary Research Proposal\***

The integration of competencies acquired throughout the program. The development and submission of a transdisciplinary research proposal that responds to a Call for Proposals from an external sponsor, such as the National Institutes of Health.

##### **HSCI 6285: Collaboration and Team Science in Practice and Research\***

Approaching health, technology, social, and environmental problems with cross-disciplinary engagement and collaboration. Foundational and practical principles and their impact on collaborative and team science engagements.

#### Electives (choose three; 9 credit hours)\*^(choose one)

Electives are chosen with academic advisor and can be from any GW school/college. Students must gain approval from the program director and school offering the course before registering. Previously approved elective options, as of Fall 2016, include:

##### Health Science Courses

###### • Clinical Management and Leadership Courses

**CML 6202 Human Resource Development**

**CML 6204 Marketing Clinical Services**

**CML 6205 Case Studies in Clinical Management & Leadership**

###### • Clinical Research Administration

**CRA 6202 Medicines Development**

**CRA 6203 Partnerships with Human Subjects**

###### • Emergency Health Sciences

**EHS 6211 Innovations in Telemedicine**

###### • Health Care Quality

**HCQ 6200 Introduction to Health Care Quality**

###### • Health Science Courses

**HSCI 6223 Topics in Health Care Leadership**

**HSCI 6240 Issues and Trends in Health Systems**

**HSCI 6241 The Health Care Enterprise**

###### • Occupational Therapy Courses

**OT 8272 Mixed Methods in Translational Health Sciences**

##### Non-Health Science Courses

###### • Online Courses

**MBAD 6290 Creativity and Innovation**

###### • On-Campus Courses

**EDUC 8100 Epistemology (1 credit)**

**EDUC 8100 Data Collection (1 credit)**

**EDUC 8100 Data Analysis (1 credit)**

**EDUC 8122 Qualitative Research Methods**

**EMSE 6020 Decision Making with Uncertainty**

**MICR 6236 Fundamentals of Genomics**

**PSYCH 8277 Health Psychology**

#### General Application Requirements

- Demonstrated research exp. (5-7 years) in a core discipline area
- Resume/CV
- Career Development Statement
- Bachelor's degree from regionally accredited institution
  - CTR Certificate applicants must have successfully completed (B or better) graduate level biostatistics and epidemiology
- Official transcripts from all institutions attended
- English language test, if not U.S. citizen
- 2 letters of recommendation

Apply for Summer (April 15), Fall (July 15), or Spring (November 15)

Visit [smhs.gwu.edu/clinical-translational-research/](http://smhs.gwu.edu/clinical-translational-research/) for details.