Sample curricula:

**Required courses for Post-baccalaureate students:**
- **Advanced Molecular and Cellular Biology** (CTS 555), 6 units, *or similar*
- **Professional Development series** (minimum 4 units)
  - **Responsible Conduct of Research** (CTS 595C); 2 units, *and*
  - **Individualized Scientific Writing** (CTS 585), 2 units, *or*
  - **Project Management and Business Entrepreneurship**, 2 units
- **Biostatistics** (Epid 576A), 3 units. Other course syllabi may be considered by the Program Committee for approval.
- **Medical Sciences Seminar** (CTS 696A); or **Biomedical Sciences Seminar** (CTS 696B), 1 unit/semester, min 2 semesters. Credit for attending relevant departmental seminars can be obtained in any specialty participating in the CTS Program. A minimum of 2 units of credit derived from seminar programs is required. The dissertation defense can be presented in one of these seminar series with permission of the seminar coordinators.
- **Biomedical Sciences Journal Colloquium** (CTS 595) and/or **Clinical Case Conferences**, 1 unit/semester, 6 semesters, 6 credits
- **Dissertation research** (CTS 920), 18 credits

**Elective options:**
- **Human Systems Neuroscience** (CTS 556), 4 units
- **Developmental Neurobiology** (NEU 557), 4 units
- **Advanced Molecular and Cellular Biology 2** (CTS 560), 3 units
- **Molecular Mechanisms of Human Disease**, 3 units
- **Biomedical Imaging**, 2 units
- **Fundamentals of Cardiovascular Hematology** (MEDP 620), 3 units
- **Oncology and Cancer Biology**, 3 units
- **Fluid Dynamics in Biological Systems**, 2 units
- **Genomic Medicine**, 2 units
- **Neuropharmacology** (PHCL 553), 3 units

**Required courses for Postgraduate students:**
- **Principles of Clinical Sciences** (CTS 610); 2 credits/semester, 2 semesters, *or similar*
- **Professional Development series** (minimum 4 units)
  - **Responsible Conduct of Research** (CTS 595C); 2 units, *and*
  - **Individualized Scientific Writing** (CTS 585), 2 units, *or*
  - **Grant Writing and Review Panels**; 2 units, *or*
  - **Project Management and Business Entrepreneurship**, 2 units
- **Biostatistics** (Epid 576A), 3 units. Other course syllabi may be considered by the Program Committee for approval.
- **Medical Sciences Seminar** (CTS 696A); or **Biomedical Sciences Seminar** (CTS 696B); or **Departmental seminar programs**, 1 unit/semester, min 2 semesters. Credit for attending relevant departmental seminars can be obtained in any specialty participating...
in the CTS Program. A minimum of 2 units of credit derived from seminar programs is required. The dissertation defense can be presented in one of these seminar series with permission of the seminar coordinators.

- **Biomedical Sciences Journal Colloquium** (CTS 595) and/or **Clinical Case Conferences**, 1 unit/semester, 6 semesters, 6 units
- **Dissertation research** (CTS 920), 18 units

**Elective options:**
- **Economic Foundation for Health Sciences** (CPH 506), 3 units
- **Design of Experiments** (CPH 571B), 3 units
- **Current Topics in Biomedical Sciences** (CMM 603), 2 units
- **Current Topics in Translational Medicine** (CMM 604), 2 units
- **Biostatistics for Research** (CPH 576B), 3 units
- **Clinical Trials and Intervention Studies** (CPH 675), 3 units
- **Special Topics in Biostatistics** (CPH 685), 3 units
- **Bioethics, Regulations, and Repercussions in Research** (EPID 651), 2 units

**Minor Requirements**
The Graduate College requires all PhD students to complete a "Minor Program of Study." Requirements and successful completion of a minor field of study is determined by the Program in which the minor is obtained. A typical program of study is 9 units (minimum), as required by the Minor Program. Contact the Faculty Advisor in the graduate program of interest to develop a mutually agreeable Minor Program of Study. Alternatively, an additional specialized component of the CTS curriculum can be utilized to satisfy the Minor Program requirement. For example, CTS graduate students might take coursework in Applied Nanobioscience in Medicine offered from Phoenix as a Minor Program within the CTS Major. (Examples of other Minor Areas are: Physiological Sciences, Cancer Biology, Immunology, etc.).