

## Ph.D. in Clinical Translational Sciences

### Sample Curriculum for Tucson Students:

#### Required Courses\*

- Principles:
  - Fundamentals of Clinical Translational Science (CTS 500) – 4 units; OR
  - Cellular, Molecular and Neural Biology (CTS 555) – 6 units, offered Fall semester [*for post-baccalaureate students*]; OR
  - Principles of Clinical Research I and II (CTS 501 and CTS 502) – 4 units each, offered Fall and Spring; OR
  - Principles of Surgery or Principles of Medicine (CTS 610 or CTS 620A/B/C) – 3-6 units [*for postgraduate students*].
- Professional Development Series - minimum 4 units, including:
  - Responsible Conduct of Research (CTS 595C) – 1 unit/semester; taken Fall and Spring semesters [required]And an additional 2 units chosen from:
  - Individualized Scientific Writing (CTS 585) – 2 units
  - Professional & Career Training Series (CTS 595D) [*for post-baccalaureate students*] – 2 units
  - Or similar courses in other departments by prior approval of the CTS program.
- Biostatistics:
  - Biostatistics in Public Health (BIOS 576A) – 3 units
- Seminar and/or journal club/colloquium – 4 units total (1 unit per enrollment; 4 total enrollments). Course options include:
  - Biomedical Sciences Journal Colloquium (CTS 595) – semester offered and topic differ by instructor/section.
  - Biomedical Sciences Seminar (CTS 696B) – offered Fall and Spring semester, including Tucson students via videoconference.
  - Students may take any regularly scheduled graduate seminar course in a department relevant to the student's research interests. *Postgraduate students may earn credit in CTS 696A for attendance at relevant grand rounds series in a clinical department.\*\**
  - Students may take any regularly scheduled graduate journal club/colloquium course in a department relevant to the student's research interests. *Postgraduate students may earn credit in CTS 595 for participation in clinical case conferences or a clinical department journal club.\*\**
- Dissertation (CTS 920) – 18 units
  - \* May substitute other courses with CTS approval with the exception of CTS 920.
  - \*\* Seminar or journal club credit for activities other than CTS courses toward Ph.D. requires prior approval from CTS.

#### Elective Options

Students may use any graduate courses approved by their faculty mentor as electives to meet the remaining Ph.D. unit requirements.

#### Sample elective courses:

- Informatics for Clinical Research (CTS 503) – 4 units

- Neurodevelopment in Action (CTS 572) – 4 units
- Current Topics in Translational Medicine (CMM 604) – 2 units
- Experimental Design (CBIO 597A) – 1 unit
- Basic Principles of Epidemiology (EPID 573A) – 3 units
- Biostatistics for Research (BIOS 576B) – 3 units
- Neuropharmacology (PHCL 553) – 3 units
- Introduction to Biomedical Informatics (BME 577) – 3 units
- Mechanisms of Human Diseases (PATH 515) – 4 units
- Cardiovascular Physiology (PSIO 585) – 3 units
- **Or** any other graduate courses recommended by the faculty mentor.