

## Clinical Research Informatics (CRI) Curriculum - PhD $\geq$ 55 hours (inclusive of the MS hours)

### Biomedical Informatics Core: .....(12 hours)

BMIG 5011 Introduction to Biomedical Informatics I and lab (4 hours)

BMIG 5012 Introduction to Biomedical Informatics II and lab (4 hours)

BMIG 5010 Project Rotation in Biomedical Informatics (2 hours)\*

\*two rotations required for the core for a total of 4 credit hours

### Background necessary for research area .....( $\geq$ 6 hours, PhD)

Clinical Research Informatics students need foundational courses in both the biological and computational sciences. Necessary topics differ according to the research area. Examples are listed below.

#### (1) Biological sciences

PHYO 5013 Physiology, NBDS 5093 Cell Biology, BMIG 5115 Healthcare in the United States

#### (2) Computational sciences

SAS programming (introductory), BIOS 5212 Biostatistics II, PBHL 5101/5201 Biostatistics I and II Lab Using R, IFSC 7320 Database Systems and Information Architecture, IFSC 7370 Big Data (includes no-SQL Databases)

### Specialty Track Courses: .....( $\geq$ 9 hours, PhD)

BMIG 6011 Clinical Research Informatics (3 hours)

BMIG 6010 Information Systems in Clinical Research (3 hours)

BMIG 5112 Introduction to Human Computer Interaction (3 hours)

BMIG 5016 Clinical and Translational Research (1 hour)

BMIG 5017 Clinical Data Standards (1 hour)

BMIG 5013 Health Information Systems (1 hour)

BMIG 6012 Data Warehousing, Aggregation, and Reporting (1 hour)

BIOM 6110 Fundamentals of Managing Research Data (1 hour)

### Research Methods and Conduct: .....( $\geq$ 28 hours, PhD)

BMIG 6050 Research Design (3 hours)

PCOL 5211 – 5241 Scientific Communication and Ethics (4 semesters, 1 credit hour each)

BMIG 5800 Thesis Research (6 hours MS)

BMIG 6800 Dissertation Research ( $\geq$  18 hours PhD)

BMIG 6215 Research (0 hours MS, variable hours PhD)

BIOM 5190 Research and Application Seminar (0 hour MS, 3 hours PhD)

### Free Electives: .....( $\geq$ 0 hours, PhD)

Chosen based on need to support master's or doctoral research.