

**Master of Science in Clinical & Translational Research**  
**Principal Investigator Track**



*Effective Spring 2022-Present*

Course Number	Course Title	Credits	Required or Elective	Semester Offered
<b>Core Courses - 10 credit hours</b>				
BE-7022	Introduction to Biostatistics	3	Required	Fall Spring/Summer*
BE-7076	Introduction to Epidemiology	3	Required	Fall/Spring Summer*
BE-9066	Clinical Research Scholars Seminar	1	Required	Spring
BE-9075	Design & Management of Field Studies	3	Required	Spring
<b>Research Ethics (choose one) - 1-2 credit hours</b>			Required	
BE-7067	Scientific Integrity & Research Ethics	1-2		Summer*
GNTD-7003	Ethics in Research	1		Spring
<b>Statistical Programming (choose one) - 3 credit hours</b>			Required	
BE-7024	Computational Statistics (R)	3		Spring
BE-8083	Data Analysis with R & SAS	3		Spring
PHDD-8060	Statistical Principles in Clinical Research (JMP)	3		Fall
<b>Regression Analysis (choose one) - 3 credit hours</b>			Required	
BE-7023	Advanced Biostatistics	3		Fall
BE-7088	Regression Analysis (SAS)	3		Spring
<b>Advanced Methods (choose one) - 2-3 credit hours</b>			Required	
BE-7025	Comparative Effectiveness Research/Patient-Centered Outcomes Research	2		Fall
BE-7066	Principles of Clinical Trials	3		Fall
BE-7068C	Decision-Analysis & Cost-Effectiveness Analysis	3		Spring
BE-8062	Introduction to Medical Informatics	3		Fall
BE-9061C	Meta-Analysis	3		Fall
<i>or any advanced methods course offered under the BE course code</i>				
<b>Culmination: 2 credit hours</b>			Required	
ENV-7091	Master's Thesis Research	2		Fall/Spring/Summer
<b>Electives: 8-10 credit hours</b>				
<i>Students may fulfill the remaining elective course credit hours by completing an optional focus area, additional elective courses of choice, and/or a maximum of 6 credit hours of non-thesis research (ENV-8091). Elective courses outside of the department need to be approved by the Program Director.</i>				
<b>TOTAL CREDIT HOURS</b>		<b>30</b>		
<i>*course is offered online</i>				
<ul style="list-style-type: none"> <li>• 3.0 GPA (B average) or higher required for graduation.</li> <li>• "I" (Incomplete) or "NG" (Not Graded) grades must be removed from academic record prior to applying for graduation.</li> <li>• Students must take a minimum of one graduate credit that contributes to degree requirements per academic year (fall-summer) to maintain active status.</li> <li>• All requirements for the master's degree must be completed within five consecutive academic years of the date of matriculation into the program.</li> </ul>				

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**Approved Electives**

**Effective Fall 2021-Present**

\*Approved courses that can be used to count towards elective credit hours include:

-Any BE listed course

-Any course listed on the curriculum, but not used to fulfil a curriculum requirement

\*The table below lists suggested BE courses and other approved electives outside of the department.

<b>Course Number</b>	<b>Course Title</b>	<b>Topics/Areas of Focus</b>	<b>Credits</b>	<b>Semester Offered</b>
BE-7034	Data Collection and Storage with REDCap	General Elective	1	Fall
BE-7040	Collaboration & Team Science	General Elective	2	Spring
BE-7071	Quality Improvement & Patient Safety	Clinical Epi/Clinical Effectiveness	1	Fall*
BE-7099	Introduction to Bioinformatics	Research Informatics	3	Spring
BE-8076	Successful Scientific Writing	General Elective	2	Fall*/ Summer*
BE-9073C	Molecular Epidemiology	Multiple	2	Spring
CS-6033	Artificial Intelligence	Clinical Research Informatics	3	Fall
CS-6052	Intelligent Data Analysis ( <b>odd years</b> )	Clinical Research Informatics	3	Spring
DB-9087	Development & Disease ( <b>even years</b> )	Translational Research	2	Spring
GC-7020	Human Genetics	Molecular Epidemiology	3	Fall
MG-8011	Advanced Fundamentals in Human Genetics	Molecular Epidemiology	3	Fall
GNTD-8001C	Introduction to Functional Genomics	Translational Research Informatics	3	Spring
IS-7030	Data Modeling (7-week term)	Clinical and Translational Research Informatics	2	Fall
IS-7032	Database Design (7-week term)	Clinical and Translational Research Informatics	2	Fall
PHDD-8010	Global Regulatory & Development Strategies of Drugs & Medical Devices	Clinical Trials	3	Fall*
PHDD-8030	Pre-Clinical/Non-Clinical Studies for IND	Translational Research	3	Spring
PHDD-8040	Development & Manufacturing of Drug Products & Medical Devices	Clinical Trials	3	Spring
PHDD-8050	Phase I/II Clinical Trials Research & Design	Clinical Trials	3	Fall*
PHDD-8060	Statistical Principles in Clinical Research	Translational Research	3	Fall
PHDD-8070	Phase III/IV Clinical Trials & Research	Clinical Trials	3	Spring*