

DEGREE REQUIREMENTS

MS Curriculum and Requirements. The MS degree requires students to formulate a research question, investigate a problem or issue, report the results, and discuss the findings and implications of a study. Courses are complemented by research that culminates in the writing and verbal defense of a master's thesis.

It is recommended that by the end of the first semester of courses, the student initiates a meeting with the major advisor to discuss research topics and project ideas. During subsequent semesters, the student will have further opportunities to develop a research proposal. During the final year of coursework, the student will be conducting the research project and meeting frequently with the major advisor, who will monitor progress and provide feedback. Near the end of the final year of coursework, the student should have completed the project and begun to prepare the thesis manuscript.

Depending on which ethics course is chosen, 30-31 credits are required to earn the MS. Below is a list of required courses and research requirements.

1. **A graduate entry level biostatistics course** (3 credits). Possible course selections include BMI 541 or BMI 699 (Fall) Introduction to Biostatistics, Stat 571 (Fall) Statistical Methods for Bioscience, or an equivalent course. The same course's 1-credit enrollment section is for students with instructor consent who have prior statistics (not biostatistics) coursework.
2. **Family Medicine 701: Perspectives in Multidisciplinary Clinical and Translational Research** (2 credits, Fall). An overview of clinical investigation and translational research
3. **Population Health Sciences 797: Introduction to Epidemiology** A blended course in which students watch lectures online and attend small group "labs" for discussion and work on case studies. (3 credits, Fall)
4. **One lecture course in the Responsible (Ethical) Conduct of Research** (1-2 credits) selected from the following list or an equivalent course approved by the Executive Committee:
 - a) **Med Hist 545 Ethical and Regulatory Issues in Clinical Investigation** (1 credit, Summer)
 - b) **Pharmacy 800 Research Ethics, Scientific Integrity and the Responsible Conduct of Research** (2 credits, alternate Falls, 2018, 2020, etc.)
 - c) **Vet Med/Surgical Science 812 Research Ethics and Career Development** (2 credits, Fall)
 - d) **Ob/Gyn 955 Responsible Conduct of Research for Biomedical Students** (2 credits, Fall)
 - e) **Nursing 802 Ethics and Responsible Conduct of Research** (1 credit, Spring)
 - f) **Oncology 675 Appropriate Conduct of Science** (listed as "Special Topics," 1 credit, Spring)

5. **An intermediate statistics course** (3 credits). Course selection must meet the approval of the graduate program and be applicable to the student's area of research.
6. **Biostatistics and Medical Informatics 542: Introduction to Clinical Trials I** (3 credits, Spring). Course emphasis is on clinical trials study design. BMI 541 (or equivalent) is a prerequisite.
7. **Biostatistics and Medical Informatics 544: Introduction to Clinical Trials II** (3 credits, Fall) Course emphasis is on clinical trial implementation and management, regulatory requirements, and data collection and management strategies. BMI 542 or instructor consent are prerequisite.
8. **Nursing 705: Seminar in Interdisciplinary Clinical Research Evidence** (2 credits, Summer)
9. **Biostatistics and Medical Informatics 699: Patient-Oriented Research Presentation Skills Seminar** (1 credit, Fall)
10. **Research: Med (or other department) 990 (6-8 credits)**. Students register for their primary mentor's section of (Dept) 990 and receive academic credits for their research projects. The MS program is multidisciplinary in its composition of courses and degree committees and encourages students to take 6 credits of 990 Research and 2 credits of any graduate course (elective) that enhances their understanding of a specific methodology, statistical design, or area of expertise outside of their own.