DRAFT 2

Graduate Specialization in Reproductive and Developmental Sciences
At Michigan State University

Basic Science Option:

REQUIRED COURSES:

Biochemistry, Molecular and Cellular Biology **(Select a minimum of two courses)**

BMB 801	Molecular Biology (3 credits)
BMB 802	Metabolic Regulation and Signal Transduction (3 credits)
BMB 825	Cell Structure and Function (3 credits)
ANS 825	Animal Biotechnology (3 credits)
PDI 830	Concepts in Molecular Biology (2 credits)
NEU 804	Molecular and Developmental Neurobiology (3 credits)
NEU 827	Physiology and Pharmacology of Excitable Cells (4 credits)

Statistics (**select one course**)

STT/ANS 814	Advanced Statistics for Biologists (4 credits)
PHM 980	Problems Biostatistics/Biometry (3 credits)
PSY 815	Quantitative Research Design and Analysis in Psychology (3 credits)

Research Ethics

EPI 827 The Nature and Practice of Scientific Integrity (3 credits) or
Series of Seven 2.5 h Evening Workshops in Responsible Conduct of Science sponsored by the Graduate School

Seminar

Reproductive and Developmental Sciences Seminar: Benchtop to Bedside (1 credit)
New seminar course featuring invited speakers from on and off campus talking about basic and clinical research in reproductive and developmental sciences and student question and answer sessions with speakers.

ELECTIVES (**select a minimum of two courses from 2 categories below**)

Advanced Physiology, Endocrinology, Neurobiology, or Developmental Biology

PSL 828	Cellular and Integrative Physiology (4 credits)
PSL 950	Stem Cell Biology (2 credits)
PSL 839	Systems Neuroscience (4 credits)
PSL 885	Vertebrate Neural systems (3 credits)
PHM 810	Synaptic Transmission (3 credits)
PHM	Online Endocrinology course
NEU 811	Advanced Behavioral Neuroscience

Professional Development

ANS 890	Writing Winning Grant Proposals (3 credits)

Clinical Sciences Option

REQUIRED COURSES

Reproductive/Developmental Epidemiology (both courses)
EPI 816 Perinatal Epidemiology (3 credits)
EPI 824 Reproductive Epidemiology (3 credits)

Advanced Biostatistics (one course)
EPI 847 Analysis of Survival Data (3 credits)
EPI 920 Advanced Methods in Epidemiology and Applied Statistics (3 credits)
EPI 950 Advanced Biostatistical Methods in Epidemiology (3 credits)

Research Ethics
EPI 827 The Nature and Practice of Scientific Integrity (3 credits) or
Series of Seven 2.5 h Evening Workshops in Responsible Conduct of Science sponsored by the Graduate School

Seminar
Reproductive and Developmental Sciences Seminar: Benchtop to Bedside (1 credits)
New seminar course featuring invited speakers from on and off campus talking about basic and clinical research in reproductive and developmental sciences and student question and answer sessions with speakers.

ELECTIVES (select a minimum of two courses)

Epidemiology/Endocrinology:
EPI 945 Molecular Epidemiology (3 credits)
EPI 822 Environmental Epidemiology (3 credits)
PHM ? Online Endocrinology Course (? Credits)
EPI 835 Topics and Methods in Neuroepidemiology (3 credits)
EPI 829 Design and Conduct of Epidemiological Studies and Clinical Trials (3 credits)

Professional Development
ANS 890 Writing Winning Grant Proposals (3 credits)