

Reproductive and Cancer Biology – Academic MHS (Approval pending by CAS)
Department of Biochemistry and Molecular Biology

| | | | Evaluation Opportunities | | |
|--|------------------------|--------------------------------------|--------------------------|---------------|--------|
| | | | Course Work/Exam | Written Comps | Thesis |
| 1. Demonstrate knowledge of the principles of reproductive biology, molecular biology, and biochemistry | | | | | |
| Specific Competencies | Learning Opportunities | | | | |
| Describe the biological principles that govern the function of the reproductive tract | 120.620 | Fundamentals of Reproductive Biology | X | X | X |
| | 120.621 | Molecular Endocrinology | | | |
| Demonstrate familiarity with research methodologies in hypothesis-driven research in public health | 120.603 | Molecular Biology of Disease | X | X | X |
| Identify the structure and function of cellular macromolecules | 120.600 | Introduction to Biochemistry I | X | X | X |
| Describe the principles underlying the molecular regulation of cell function and the control of metabolism | 120.601 | Introduction to Biochemistry II | X | X | X |
| Demonstrate familiarity with the processes of synthesis of DNA and RNA and the processes that regulate gene expression | 120.602 | Introduction to Molecular Biology | X | X | X |
| Describe the principles of molecular genetics, and their use in problems of human disease | 120.603 | Molecular Biology of Disease | X | X | X |
| | 120.615 | Molecular Biology of Carcinogenesis | | | |

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| 2. Describe the major problems of public health and the role of the molecular sciences in advancing their solutions | | | | | |
| Specific Competencies | Learning Opportunities | | | | |
| Describe human health across the lifespan, identify the major root and proximate causes of morbidity and mortality, and effective strategies for promoting health and preventing disease in human populations | 120.603 | Molecular Biology of Disease | X | X | X |
| | 550.630 | Public Health Biology | | | |
| | 550.865 | Public Health Perspectives on Research | | | |
| Describe the roles of the molecular sciences in modern public health investigations | 120.603 | Molecular Biology of Disease | X | X | X |
| | 550.630 | Public Health Biology | | | |

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| 3. Demonstrate knowledge of the ethical principles governing research | | | | | |
| Specific Competencies | Learning Opportunities | | | | |
| Know and follow the ethical and legal regulations and principles that constitute responsible research conduct | 306.665 | Research Ethics and Integrity | X | X | X |
| | 550.860 | Research Ethics | | | |

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| 4. Prepare an acceptable thesis in the area of study based on library research | | | | |
| Specific Competencies | Learning Opportunities | | | |
| Review the relevant primary literature | 120.870 Consult with Advisor Thesis | | X | X |
| Submit acceptable MHS thesis | Consult with Advisor and Thesis Committee Thesis | | X | |