CMDA Major Requirements
Biological Sciences Option

- **MATH 1225**: Calculus of a Single Variable I
- **MATH 1226**: Calculus of a Single Variable II
- **MATH 2114**: Intro to Linear Algebra
- **MATH 2204**: Intro to Multivariable Calc
- **MATH 2214**: Intro to Differential Eqns
- **STAT 3005**: Stat Methods I
- **STAT 3006**: Stat Methods II
- **STAT 3104**: Probability and Distributions

Students take either the Integrated Path or the Traditional Path.

**Integrated Path**
- **CS 1114**: Intro to Software Design
- **CS 2114**: Software Design & Data Structures
- **CMDA 2005**: Integrated Quantitative Science I
- **CMDA 2006**: Integrated Quantitative Science II
- **CMDA 2007**: Math Modeling I
- **CMDA 3604**: Intro Data Analytics & Visualization
- **CMDA 4654**: Intermediate Data Analytics & ML
- **CMDA 4864**: CMDA Capstone Project

**Traditional Path**
- **MATH 2204**: Intro to Multivariable Calc
- **MATH 2214**: Intro to Differential Eqns
- **STAT 3006**: Stat Methods II
- **STAT 3104**: Probability and Distributions

**CMDA electives include the following:**
- **CMDA 4664**: Computational Intensive Stochastic Modeling
- **CS 3824**: Intro to Computational Biology and Bioinformatics
- **MATH 4454**: Applied Mathematical Modeling
- **STAT 4364**: Introduction to Statistical Genomics
- **CMDA 4994**: Undergraduate Research

**BIOL/SYSB electives include the following:**
- **SYSB 3035**: Systems Biology of Genes and Proteins (4 credits)
- **SYSB 3036**: Systems Biology of Genes and Proteins (4 credits)
- **SYSB 3114**: Network Dynamics and Cell Physiology (4 credits)
- **SYSB 3116**: Network Dynamics and Cell Physiology (4 credits)
- **BIOL 4134**: Evolutionary Genetics
- **BIOL 4564**: Infectious Disease Ecology
- **BIOL 4114**: Global Change Ecology
- **BIOL 4004**: Freshwater Ecology (4 credits)
- **BIOL 4624**: Microbial Genetics
- **BIOL 4664**: Virology
- **BIOL 4874**: Cancer Biology

**BIOL electives include the following:**
- **BIOL 2004**: Genetics
- **BIOL 2134**: Cell Function & Differentiation
- **BIOL 2604**: General Microbiology
- **BIOL 2704**: Evolutionary Biology
- **BIOL 2804**: Ecology

**BIOL/SYSB electives include the following:**
- **SYSB 4004**: Freshwater Ecology (4 credits)
- **BIOL 4624**: Microbial Genetics
- **BIOL 4664**: Virology
- **BIOL 4874**: Cancer Biology
- **BIOL/SYSB 4994**: Undergraduate Research

+ 3 elective courses
(2 from the BIOL/SYSB list, 1 from the CMDA list)
At most 1 Undergraduate Research course may be counted.