Students take either the Integrated Path or the Traditional Path.

Integrated Path:
- **CMDA 3605** Math Modeling I
- **MATH 1225** Calculus of a Single Variable I
- **STAT 3005** Stat Methods I
- **CS 1114** Intro to Software Design
- **CS 2114** Software Design & Data Structures
- **BIOL 2004** Genetics
- **BIOL 2134** Cell Function & Differentiation
- **BIOL 2604** General Microbiology
- **BIOL 2704** Evolutionary Biology
- **BIOL 2804** Ecology

Traditional Path:
- **CMDA 3605** Math Modeling I
- **MATH 1225** Calculus of a Single Variable I
- **STAT 3005** Stat Methods I
- **CS 1114** Intro to Software Design
- **CS 2114** Software Design & Data Structures
- **BIOL 2004** Genetics
- **BIOL 2134** Cell Function & Differentiation
- **BIOL 2604** General Microbiology
- **BIOL 2704** Evolutionary Biology
- **BIOL 2804** Ecology

+ 3 elective courses (2 from the BIOL/SYSB list, 1 from the CMDA list)

At most 1 Undergraduate Research course may be counted.

CMDA electives include the following:
- **CMDA 4864** 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

CMDA 4864 (CMDA Capstone) requires the prerequisite of CMDA 3605, 3634, and 3654. Students are strongly encouraged to also take CMDA 3606 and 4654 before the CMDA Capstone.

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)
- **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/SYSB 4994** Undergraduate Research

www.ais.science.vt.edu/programs/cmda.html