BIOL 312. Vertebrate Natural History Laboratory. 1 Hour.
Semester course; 3 laboratory hours. 1 credit. Prerequisites: BIOL and BIOZ 151 and 152, with minimum grades of C. Pre- or corequisite: BIOZ 313. Laboratory exercises focusing on the natural history of vertebrates, with emphasis on the species native to Virginia.

BIOZ 317. Ecology Laboratory. 2 Hours.
Semester course; 4 laboratory hours. 2 credits. Prerequisites: BIOL and BIOZ 151 and 152, and UNIV 200 or HONR 200; all with minimum grades of C. Pre- or corequisite: BIOZ 317. A field-oriented course that provides experience in ecological research, including experimental design, instrumentation, data collection and data analysis.

BIOZ 321. Plant Development Laboratory. 2 Hours.
Semester course; 4 laboratory hours. 2 credits. Pre- or corequisite: BIOZ 321. An experimental approach applied to a phylogenetic survey of developmental model systems. Observational and experimental protocols will be used to collect data and gather information. Problem-solving skills will be utilized to analyze and present experimental results.

BIOZ 324. Medicinal Botany Laboratory. 1 Hour.
Semester course; 3 laboratory hours. 1 credit. Prerequisites BIOL 151 and BIOZ 151; BIOZ 152 and BIOZ 152; and BIOZ 300, all with a minimum grade of C. Pre- or corequisite: BIOZ 324. Introduces basic plant biology concepts, plant diversity and systematics, and various medicinal plant species, compounds and properties.

BIOZ 341. Human Evolution Lab. 1 Hour.
Semester course; 2 laboratory hours. 1 credit. Corequisite: BIOL 341/ANTH 301. Laboratory exercises correlated with BIOL 341/ANTH 301. Exercises emphasize comparative primate and fossil anatomy, morphology and behavior, as well as practice in recognizing and applying evolutionary principles in human evolution. Crosslisted as: ANTZ 301.

BIOZ 391. Topics in Biology Laboratory. 1-4 Hours.
Semester course; 1-4 laboratory hours. 1-2 credits. Prerequisite: BIOL 300, BIOZ 310, BIOZ 317 or BIOZ 318, with a minimum grade of C. Laboratory investigations in a selected topic of biology. See the Schedule of Classes for specific topics to be offered each semester and prerequisites.

BIOZ 395. Directed Study. 1-2 Hours.
Semester course; variable hours. 1-2 credits. Maximum of 2 credits per semester; maximum total of 6 credits for all independent study courses (BIOZ 395, BIOL 492, BIOL 495 and/or BIOZ 395). Prerequisites: BIOZ 151 and BIOZ 152 with minimum grades of C, permission of the Department of Biology and research mentor. Mentors are not limited to faculty members within the Department of Biology, but the context of the research study must be applicable to the biological sciences as determined by the department. Studies should include directed readings, directed experimentation or advanced guided inquiry — all under the direct supervision of a faculty member. A minimum of three hours of supervised activity per week per credit hour is required. Graded as pass/fail.

BIOZ 416. Ornithology Laboratory. 2 Hours.
Semester course; 4 laboratory hours. 2 credits. Prerequisite: BIOL 317 with a minimum grade of C. Pre- or corequisite: BIOL 416. A field-oriented course that develops basic skills in bird identification by sight and sound for a variety of regional taxa with emphasis on avian anatomy and adaptations for flight. Students conduct an independent or small-group research project on a question of their choice relating to avian ecology or behavior, including experimental design, data collection and analysis, and a final project presentation.
**BIOZ 418. Integrative Physiology Laboratory. 3 Hours.**
Semester course; 2 recitation and 3 laboratory hours (hybrid course taught mostly on campus). 3 credits. Prerequisites: BIOL 151 and BIOZ 151; BIOL 152 and BIOZ 152; and BIOL 300; or equivalents, all with minimum grades of C. Corequisite: BIOL 411 or BIOL 423. A comparative laboratory investigation of physiological responses across plant and animal taxa, with application to changing environmental conditions and ecological interactions. Topics include metabolism, water balance, gas exchange, resource allocation and chemical signaling.

**BIOZ 438. Forensic Molecular Biology Laboratory. 2 Hours.**
Semester course; 4 laboratory hours. 2 credits. Pre- or corequisite: BIOL/FRSC 438. Provides comprehensive coverage of the various types of DNA testing currently used in forensic science laboratories. Students will have hands-on experience with the analytical equipment employed in forensic science laboratories and the techniques for human identification in forensic casework. Students also will explore and practice both scientific writing and writing of DNA case reports. Crosslisted as: FRSZ 438.

**BIOZ 476. Molecular Capstone Laboratory. 2 Hours.**
Semester course; 1 lecture and 3 laboratory hours. 2 credits. Prerequisites: BIOL 300 and BIOL 310, each with a minimum grade of C; and 90 credit hours of undergraduate course work. Application of basic methods used in cellular and molecular biology to the investigation of topics of current biological interest. Emphasis on experimental design, data collection and analysis, communication skills, critical thinking, and ethical and social responsibility.

**BIOZ 491. Topics in Biology Laboratory. 1-4 Hours.**
Semester course; variable hours. Variable credit. Prerequisites: BIOL 300 with a minimum grade of C. Laboratory investigations in a selected topic of biology. See the Schedule of Classes for specific topics to be offered each semester and prerequisites.