

## Approved Life Science Electives for CALS Pre-Professional Biology 2021-2022

| Course   | Title   | Credits | Prerequisite   | Typically Offered           |
|--|---|---------|--|-----------------------------|
| <i>Special Topics (4932) in a life science department</i>                                      |   | 1-4     | <i>Topics vary: must have biology advisor permission to count toward major</i> | <i>Fall, Spring, Summer</i> |
| <i>Undergraduate Research/Individual Study (4905, 4911)<br/>Maximum 3 credits toward major</i> |   | 1-3     | <i>Must find your own Faculty Sponsor</i>                                      | <i>Fall, Spring, Summer</i> |
| <i>Honors Thesis (4915) in a life science department</i>                                       |   | 1-3     | <i>Junior Standing and Accepted Honors Thesis Proposal</i>                     | <i>Fall, Spring, Summer</i> |
| AGR 4320   | Plant Breeding  | 3       | AGR 3303 or PCB 3063   | Spring                      |
| AGG 4502   | Nanotech in Food, Ag., and Environment                                  | 3       | SWS 3022   | Spring                      |
| AGR 4512   | Physiology and Ecology of Crops   | 3       | AGR 3303 or PCB 3063   | Spring                      |
| ALS 4161   | Exotic Species and Biosecurity Issues                                   | 3       | BSC 2011/L   | Fall                        |
| ALS 4162   | Consequences of Biological Invasions                                    | 3       | BSC 2011/L   | Spring                      |
| ALS 4163   | Plant Resource Protection   | 3       | BSC 2011/L   | Spring                      |
| ANS 3006   | Introduction to Animal Science  | 3       | None   | Fall, Spring, Summer        |
| ANS 3006L  | Introduction to Animal Science Laboratory                               | 1       | ANS 3006 concurrent or completed   | Fall, Spring, Summer        |
| ANS 3319C  | Reproductive Physiology & Endocrinology in Domestic Animals             | 4       | ANS 3006 and BSC 2011/L  | Fall, Spring                |
| ANS 3384C  | Genetics of Domestic Animals  | 3       | ANS 3006 and BSC 2010/L  | Spring, Summer              |
| ANS 3440   | Principles of Animal Nutrition  | 4       | CHM 2045/L   | Fall, Spring, Summer        |
| ANS 4389L  | Molecular Techniques in Domestic Animal Genetics                        | 2       | ANS 3384C  | Spring                      |
| BMS 4136C  | Human Histology   | 4       | PCB 3023 or 3134 or instructor permission                                      | Spring                      |
| BOT 3151C  | Local Flora of North Florida  | 3       | None   | Fall, Spring                |
| BOT 3503   | Physiology and Molecular Biology of Plants                              | 3       | BSC 2010 and CHM 2046/L  | Spring                      |
| BOT 3503L  | Physiology and Molecular Biology of Plants Lab                          | 1       | BSC 2010 and CHM 2046/L  | Spring                      |
| BOT 4851C  | Medical and Forensic Plant Biology                                      | 3       | BSC 2011 with B or better  | Fall                        |
| BSC 1920   | First Year Introduction: Biology at UF                                  | 1       | First year Biology major   | Fall                        |
| BSC 2891   | Python Programming for Biology  | 3       | None   | Spring                      |
| BSC 3307C  | Climate Change Biology  | 4       | BSC 2011/L with C or better  | Spring                      |
| BSC 3402   | Theory and Practice in Biology  | 2       | None   | Spring                      |
| BSC 3911   | Entering Research in Biology  | 1       | Concurrent with BSC 4910 or BOT/ZOO 4905                                       | Fall, Spring, Summer        |
| BSC 4434C  | Introduction to Bioinformatics  | 3       | MCB 3020 or BCH 4024 with C or better  | Fall                        |
| BSC 4452   | Computational Tools for Research in Biology                             | 3       | Junior standing  | Fall                        |
| BSC 4467   | Applications and Technologies of Synthetic Biology                      | 3       | MCB3020 or MCB3023   | Fall                        |
| BSC 4910   | Individual Mentored Research in Biology                                 | 1-3     | BSC 2011/L with C or better; Concurrent with BSC 3911; must find own sponsor   | Fall, Spring, Summer        |
| BSC 4912   | Advanced Mentored Research in Biology                                   | 1-4     | BSC 3911 and BSC 4910 with C or better   | Fall, Spring, Summer        |
| BSC 4930   | Special Topics in Biology   | 1-4     | Instructor permission  | Fall, Spring                |
| ENY 2890   | Using Insect Research to Understand the Nature of Scientific Engagement | 3       | None   | Fall, Spring                |
| ENY 3005/L   | Principles of Entomology and Laboratory                                 | 3       | None   | Fall, Spring, Summer        |
| ENY 3451C  | Insect Behavior   | 3       | ENY 3005 or BSC 2010   | Fall                        |
| ENY 3510C  | Turf and Ornamental Entomology  | 3       | None   | Fall                        |
| ENY 3563   | Intro to Tropical Entomology  | 3       | ENY 3005/L   | Summer                      |
| ENY 3564L  | Tropical Entomology Lab   | 2       | ENY 3563   | Summer                      |
| ENY 3830   | Spider Biology  | 2       | Sophomore standing   | Fall                        |

***Substitutions may be considered on a case by case basis if it is offered by CALS. ANT, APK, PSY, etc. are never approved.***

## Approved Life Science Electives for CALS Pre-Professional Biology 2021-2022

| Course    | Title                                      | Credits | Prerequisite   | Typically Offered    |
|-----------|--|---------|--|----------------------|
| ENY 4161  | Insect Classification                      | 3       | ENY 3005/L   | Fall, Spring, Summer |
| ENY 4202  | Ecology of Vector-Borne Disease            | 2       | BSC 2010   | Fall                 |
| ENY 4203  | Ecology and Conservation of Pollinators    | 3       | BSC 2010/L with C- or above, and junior standing               | Fall                 |
| ENY 4210  | Insects and Wildlife                       | 3       | ENY 3005L  | Fall, Spring         |
| ENY 4453  | Behavioral Ecology and Systematics         | 3       | ENY 3005/L   | Spring               |
| ENY 4455C | Social Insects                             | 3       | None   | Fall                 |
| ENY 4573  | Beekeeping                                 | 3       | Junior Standing  | Fall, Spring, Summer |
| ENY 4574  | Beekeeping II                              | 3       | ENY 4573   | Spring               |
| ENY 4590C | Mosquito Identification                    | 3       | Junior Standing  | Spring               |
| ENY 4592  | Mosquito Biology                           | 3       | Junior Standing  | Fall                 |
| ENY 4660  | Medical and Veterinary Entomology          | 3       | ENY 3005/L   | Fall                 |
| ENY 4660L | Medical and Veterinary Entomology Lab      | 1       | Concurrent ENY 4660  | Fall                 |
| ENY 4701  | Forensic Entomology                        | 3       | None   | Spring               |
| ENY 4823  | Molecular Biology of Insects and Nematodes | 3       | AGR 3303 or PCB3063 or BCH4024                                 | Fall                 |
| EVR 3323  | Introduction to Ecosystem Restoration      | 4       | BSC 2010   | Spring               |
| FAS 4202C | Biology of Fishes                          | 4       | BSC 2011/L   | Fall                 |
| FAS 4270  | Marine Ecological Processes                | 3       | BSC 2010 and BSC 2011  | Fall                 |
| FAS 4405  | Aquariums, Water and Aquaculture           | 3       | BSC 2010/L   | Spring               |
| FOR 3153C | Forest Ecology                             | 3       | None   | Fall                 |
| FOR 3342C | Tree Biology                               | 3       | BOT 2010C or BSC 2011  | Spring               |
| FOS 4222  | Food Microbiology                          | 3       | MCB 2000 or MCB3020  | Spring               |
| FOS 4222L | Food Microbiology Laboratory               | 2       | FOS 4222 concurrent or completed                               | Spring               |
| HOS 3020  | Principles of Horticulture Crop Production | 3       | None   | Fall                 |
| HOS 3281C | Organic and Sustainable Crop Production    | 3       | None   | Fall                 |
| HOS 3305  | Introduction to Plant Molecular Biology    | 3       | BOT 2010C or BSC 2010  | Fall                 |
| HOS 4304  | Horticultural Physiology                   | 3       | BOT 2010C or BSC 2010  | Fall                 |
| HOS 4313C | Lab Methods in Plant Molecular Biology     | 2       | AGR 3303 or HOS 3305 or PCB 3063                               | Fall                 |
| HOS 4341  | Advanced Horticultural Physiology          | 3       | HOS 4304   | Spring               |
| HUN 4221  | Nutrition & Metabolism                     | 3       | HUN 3403 and HUN 4445 and BCH and Physiology                   | Fall, Spring         |
| HUN 4445  | Nutrition and Disease Part 1               | 2       | HUN 2201 and CHM 2211  | Fall, Spring         |
| HUN 4446  | Nutrition and Disease Part 2               | 3       | HUN 4445 and BCH and Physiology                                | Fall, Spring         |
| MCB 3703  | Astrobiology                               | 3       | Intro course in MCB, AST, CHM, PHY or GLY                      | Spring               |
| MCB 4034L | Advanced Microbiology Laboratory           | 1       | MCB 3020/L with C or better                                    | Fall, Spring         |
| MCB 4203  | Bacterial and Viral Pathogens              | 3       | MCB 3020 with C or better                                      | Fall                 |
| MCB 4304  | Genetics of Microorganisms                 | 3       | MCB 3020/L with C or better                                    | Fall                 |
| MCB 4320C | The Microbiome                             | 3       | MCB 3020 with C or better                                      | Spring               |
| MCB 4403  | Prokaryotic Cell Structure and Function    | 3       | CHM 2211 and MCB 3020/L with C or better; BCH 4024 recommended | Fall                 |
| MCB 4503  | General Virology                           | 3       | MCB 3020 or PCB 3134 with C or better                          | Spring               |
| NEM 3002  | Principles of Nematology                   | 3       | None   | Spring               |
| PCB 3109  | Cancer Biology                             | 3       | BSC 2010 with a C or better                                    | Spring               |
| PCB 3134  | Eukaryotic Cell Structure and Function     | 3       | BSC 2011/L or AGR 3303 & CHM 2210 with C or better             | Fall, Spring         |
| PCB 3402  | Disease Ecology and Evolution              | 3       | BSC 2010   | Fall                 |
| PCB 4043C | General Ecology                            | 4       | BSC 2011/L with C or better                                    | Fall                 |

**Substitutions may be considered on a case by case basis if it is offered by CALS. ANT, APK, PSY, etc. are never approved.**

## Approved Life Science Electives for CALS Pre-Professional Biology 2021-2022

| Course    | Title                                    | Credits | Prerequisite                                      | Typically Offered             |
|-----------|--|---------|---|-------------------------------|
| PCB 4085  | Genetical Ethics                         | 1       | AGR3303 or PCB3063                                | Fall                          |
| PCB 4233  | Immunology                               | 3       | MCB 3020 or BCH 4024 with C or better             | Spring                        |
| PCB 4460  | Biodiversity and Ecology Field Immersion | 4       | BSC 2011/L with C or better                       | Spring                        |
| PCB 4522  | Molecular Genetics                       | 3       | BSC 2010/L with C or better                       | Spring, Summer                |
| PCB 4553  | Population Genetics                      | 4       | BSC 2011/L with C or better                       | Fall                          |
| PCB 4666  | Human Genomics                           | 3       | PCB 3134 or PCB 4522 or BCH 4024                  | Fall                          |
| PCB 4674  | Evolution                                | 4       | BSC 2011/L with C or better; Genetics recommended | Fall, Spring, Summer          |
| PCB 4917  | Molecular Biology Lab Immersion          | 4       | BSC 2011/L  | Spring                        |
| PLP 3002C | Fundamentals of Plant Pathology          | 4       | BOT 2010C or BSC 2010                             | Fall                          |
| PLP 4242C | Introduction to Plant Bacteriology       | 3       | MCB 3020  | Spring                        |
| PLP 4260C | Intro to Plant Pathogenic Fungi          | 3       | PLP 3002C or PLP 3653C                            | Spring                        |
| PLP 4653C | Basic Fungal Biology                     | 4       | BSC2011 or PLP 3002C                              | Fall                          |
| PLS 3004C | Principles of Plant Science              | 3       | BOT 2010C or BSC 2010                             | Fall, Summer                  |
| PLS 3223  | Plant Propagation                        | 2       | BOT 2010C or BSC 2010                             | Fall, Spring, Summer          |
| PLS 3223L | Plant Propagation Laboratory             | 1       | BOT 2010C or BSC 2010                             | Fall, Spring, Summer          |
| PLS 4105  | Genome Editing and Plant Biotechnology   | 3       | PLS 3080 and PLS 4081 with C or better            | Fall                          |
| SWS 3022  | Introduction to Soils in the Environment | 3       | None  | Fall, Spring                  |
| SWS 3022L | Intro to Soils in the Environment Lab    | 1       | None  | Fall, Spring                  |
| SWS 4223  | Environmental Biogeochemistry            | 3       | BSC 2010/L and CHM 2045/L                         | Spring                        |
| SWS 4233  | Soil and Water Conservation              | 3       | None  | Summer                        |
| SWS 4244  | Wetlands                                 | 3       | None  | Fall                          |
| SWS 4303C | Soil Microbial Ecology                   | 3       | BSC 2010/L  | Fall                          |
| SWS 4307  | Ecology of Waterborne Pathogens          | 3       | MCB 3020  | Spring                        |
| SWS 4550  | Soils, Water and Public Health           | 3       | CHM 2046 and BSC 2010                             | Spring                        |
| WIS 3401  | Wildlife Ecology and Management          | 3       | BSC 2011/L  | Fall, Spring                  |
| WIS 3402  | Wildlife of Florida                      | 3       | None  | Spring                        |
| WIS 3402L | Wildlife of Florida Laboratory           | 1       | None  | Spring                        |
| WIS 3553C | Intro to Conservation Genetics           | 4       | STA 2023 and (FOR 3153C or PCB 3601C)             | Spring                        |
| WIS 4427C | Wildlife Habitat Management              | 3       | WIS 3401  | Spring                        |
| WIS 4554  | Conservation Biology                     | 3       | Genetics and Ecology and WIS3401                  | Fall                          |
| ZOO 3513C | Animal Behavior                          | 4       | BSC 2011/L with C or better and PCB 4674          | hasn't been offered in awhile |
| ZOO 3603C | Evolutionary Developmental Biology       | 4       | BSC 2011/L  | Fall                          |
| ZOO 3713C | Functional Vertebrate Anatomy            | 4       | BSC 2011/L  | Spring                        |
| ZOO 4205C | Invertebrate Biodiversity                | 4       | BSC 2011/L  | Spring, Summer                |
| ZOO 4232  | Human Parasitology                       | 3       | BSC 2011/L or AGR 3303 with C or better           | Fall                          |
| ZOO 4307C | Vertebrate Biodiversity                  | 4       | BSC 2011/L  | Fall                          |
| ZOO 4403C | Marine Biology                           | 4       | BSC 2011/L  | Fall                          |
| ZOO 4472C | Avian Biology                            | 4       | BSC 2011/L; PCB 4674 recommended                  | Spring                        |

***Substitutions may be considered on a case by case basis if it is offered by CALS. ANT, APK, PSY, etc. are never approved.***