

## SECTION IV: DEPARTMENT OF WILDLIFE, FISHERIES AND AQUACULTURE

| <b>2020–2021 WILDLIFE, FISHERIES AND AQUACULTURE MAJOR</b><br><b>Wildlife Agriculture Conservation Concentration</b> (Sample Schedule)<br>Total Hours = 124 (effective Fall 2017) |  |                 |   |
|---|--|-----------------|---|
| FRESHMAN YEAR   |  |                 |   |
| Fall Semester   |  | Spring Semester |   |
| BIO 1134  | Biology I  | BIO 1144        | Biology II  |
| CH 1043/1213  | Survey of Chemistry I or Chemistry I (C in MA 1313 or ACT math subscore 24)  | CH 1053/1223*   | Survey of Chemistry II (CH 1043) or Chemistry II (C or better in CH 1213) |
| EN 1103   | English Comp. I (ACT subscore 17)  | EN 1113         | English Composition II (EN 1103)  |
| <b>WFA 1102</b>   | <b>Wildlife and Fisheries Profession</b> (FR, SO, or instructor consent)(FL) | MA 1613         | Calc. for Bus. and Life Sci. (C in MA 1313 or ACT math subscore 24)       |
|   | Humanities Elective (3)  |                 | Oral Communication Elective (3)   |
| SOPHOMORE YEAR  |  |                 |   |
| Fall Semester   |  | Spring Semester |   |
| PSS 3303  | Soils (CH 1043)  | BIO 3103        | Genetics (MA 1313, BIO 1134)*   |
| PSS 3301  | Soils Lab (CH 1043)  | <b>WFA 4243</b> | <b>Wildlife Techniques</b> (SO)   |
| <b>WFA 3133</b>   | <b>App. Aq. &amp; Terr. Eco.</b> (BIO 1134 & 1144)                           |                 | Statistics Elective (3)   |
|   | WFA Social Science Elective (3)  |                 | Fine Arts Elective (3)  |
| FO 2113   | Dendrology (BIO 1144)*   |                 | Social Science Elective (3)   |
|   | Humanities Elective (3)  |                 |   |
| Summer Semester   |  |                 |   |
| Students are strongly encouraged to obtain career-related professional experience. Internship credit may be available with prior approval.  |  |                 |   |
| JUNIOR YEAR   |  |                 |   |
| Fall Semester   |  | Spring Semester |   |
| WFA 4123  | WF Biometrics (ST 3123 & C in MA 1613)                                       | WFA 4373        | Cons. in Ag. Landscapes (SP odd)  |
| <b>WFA 4153</b>   | <b>Prin. Wildlife Conservation and Mgt.</b> (SO)(WFA 3133 or FO 4123)        |                 | Crop Science Elective (3)   |
|   |  |                 | WLAC Professional Elective (3)  |
| <b>WFA 4223</b>   | <b>Wildlife Plant ID</b> (BIO 1134 & BIO 1144 & WFA 3133) (FL)               |                 | Natural Resources Policy Elective (3)                                     |
|   |  |                 | Zoology Elective (4)  |
|   | Writing Elective (3)   |                 |   |
|   | Animal Science Elective (3)  |                 |   |
| Summer Semester   |  |                 |   |
| Students are strongly encouraged to obtain career-related professional experience. Internship credit may be available with prior approval.  |  |                 |   |
| SENIOR YEAR   |  |                 |   |
| Fall Semester   |  | Spring Semester |   |
| <b>WFA 4353</b>   | <b>Fish &amp; Wildlife Policy &amp; Law Enforcement</b> (SR)(FL)             | <b>WFA 4473</b> | <b>Wildlife &amp; Fisheries Prac.</b> (SR)(WFA 3133 & WFA 4153)(SP)       |
|   | Crop Science Elective (3)  |                 |   |
|   | Life Science Elective (4)  | WFA 4253        | Application of GIS in WF* (SP)  |
|   | Aquatics Elective (3)  |                 | WLAC Professional Elective (3)  |
|   | Wildlife Biology Elective (3)  |                 | Wildlife Biology Elective (3)   |
|   |  |                 | WLAC Professional Elective (3)  |

\*Survey of Chem II requires prerequisite of Survey of Chem. Cannot switch between series.

Classes in **BOLD** require a C or better. FL= offered only in fall semester; SP= offered only in spring semester

SO=Sophomore standing, JR=Junior standing, SR=Senior standing

\*Substitutions available

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| FINE ARTS ELECTIVES (MSU CORE)                       |  | HUMANITIES ELECTIVES (MSU CORE)          |   |
|--|--|--|---|
| ARC 1013   | Architectural Appreciation   | AAS 1063                                 | Intro to African American Studies           |
| ART 1013   | History of Art I   | ARC 2313                                 | History of Architecture I                   |
| ART 1023   | History of Art II  | ARC 3313                                 | History of Architecture II (ARC 2313)       |
| ART 1113   | Art Appreciation   | EN 2203                                  | Intro to Lit (EN 1103, EN 1113)             |
| CO 1503  | Intro to the Theatre   | EN 2213                                  | English Lit Before 1800 (EN 1103, EN 1113)  |
| HON 3173   | Honors Seminar in Fine Arts (SO)   | EN 2223                                  | English Lit After 1800 (EN 1103, EN 1113)   |
| ID 3643  | History of Interiors I   | EN 2243                                  | American Lit Before 1865 (EN 1103, EN 1113) |
| LA 1803  | Landscape Architecture Appreciation                                      | EN2253                                   | American Lit After 1865 (EN 1103, EN 1113)  |
| MU 1103  | African American Music   | EN 2273                                  | World Lit Before 1600 (EN 1103, EN 1113)    |
| MU 1113  | His & Appr of Music  | EN 2283                                  | World Lit After 1600(EN 1103, EN 1113)      |
| MU 1123  | American Music App   | FL 1113-2143                             | Foreign Language                            |
| MU 1133  | History of Rock and Roll   | HI 1063                                  | Early US History                            |
| PE 1323  | His & Appr of Dance  | HI 1073                                  | Modern US History                           |
| PSS 2343   | Floral Design  | HI 1163                                  | World History Before 1500                   |
| TKI 2413   | His & Appr of the Artcrafts  | HI 1173                                  | World History After 1500                    |
| <b>ORAL COMMUNICATION ELECTIVES</b>                  |  | HI 1213                                  | Early Western World                         |
| AELC 3333  | Presentations in Ag & Life Sci   | HI 1223                                  | Modern Western World                        |
| CO 1003  | Fund of Public Speaking  | HI 1313                                  | East Asian Civ to 1300                      |
| CO 1013  | Intro to Communication   | PHI 1123                                 | Intro to Ethics                             |
| <b>STATISTICS ELECTIVES (MSU CORE)</b>               |  | PHI 3023                                 | History of Western Philosophy I             |
| ST 2113  | Intro to Stats (ACT Math subscore 24 or C in MA 1313)                    | PHI 3033                                 | History of Western Philosophy II            |
| ST 3123  | Intro to Stat. Inf. (ACT Math subscore 24 or C in MA 1313) (recommended) | PHI 3153                                 | Aesthetics                                  |
| <b>WRITING ELECTIVES</b>                             |  | <b>NATURAL RESOURCE POLICY ELECTIVES</b> |   |
| AELC 3203  | Prof Writing ANR Hum Sci (JR)(EN 1103, EN 1113)                          | WFA 4363                                 | W&F Admin and Comm (JR)                     |
| CO 3343  | Writing for the Media (C in EN 1113)                                     | WFA 4463                                 | Human Dim of F&W Mgt (JR)                   |
| EDF 3413   | Writing for Thinking (JR)(EN 1103, EN 1113)                              | FO 4343                                  | Forest Admin & Org (JR)                     |
| EN 3313  | Writing for the Workplace (EN 1113)                                      | FO 4353                                  | Natural Resource Law (JR)                   |
| MGT 3213   | Organizational Communication (EN 1113)                                   | FO 4413                                  | Natural Resource Policy (SR)                |
| <b>APPROVED SUBSTITUTIONS FOR FO 2113 DENDROLOGY</b> |  | PS 4743                                  | Environmental Policy (PS 1113, PS 2703)     |
| BIO 2113   | Plant Biology (BIO 1134)   |  |   |
| BIO 2213   | Survey of Plant Kingdom  |  |   |
| BIO 4203   | Taxonomy of Spermatophytes (BIO 2113, BIO 2213)                          |  |   |
| BIO 4213   | Plant Ecology  |  |   |
| PSS 3133   | Intro Weed Science (BIO 2113; CH 1213 or CH 1053)                        |  |   |

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| SOCIAL SCIENCE ELECTIVES (MSU CORE) |  | WILDLIFE BIOLOGY ELECTIVES    |  |
|-------------------------------------|--|-------------------------------|--|
| ADS 1013                            | Animal Agriculture & Society: Food for Thought   | WFA 4423                      | Herpetology (WFA 3133)                                   |
| AEC 2713                            | Introduction to Food and Resource Economics      | WFA 4433                      | Mammalogy (WFA 3133)                                     |
| AN 1103                             | Introduction to Anthropology                     | WFA 4443                      | Ornithology (WFA 3133)                                   |
| AN 1143                             | Introduction to Cultural Anthropology            | <b>AQUATICS ELECTIVES</b>     |  |
| AN 1543                             | Introduction to Archaeology                      | WFA 4133                      | Fisheries Science (ST 3123)                              |
| AN 2403                             | Introduction to the Study of Language            | WFA 4173                      | Fish Physiology (BIO 1134, BIO 1144)                     |
| CO 1223                             | Introduction to Communication Theory             | WFA 4183                      | Prin & Prac of Aquaculture (BIO 1134, BIO 1144)          |
| CO 1403                             | Introduction to the Mass Media                   | WFA 4233                      | Limnology (WFA 3133)                                     |
| EC 1033                             | Economics of Social Issues                       | WFA 4313                      | Fisheries Mgt (WFA 3133)                                 |
| EC 2113                             | Prin of Macroeconomics (SO)                      | WFA 4383                      | Wetlands Ecology (JR)(WFA 3133)                          |
| EC 2123                             | Prin of Microeconomics (SO)                      | WFA 4453                      | Ichthyology (WFA 3133)                                   |
| EN 2403                             | Introduction to the Study of Language            | BIO 4224                      | Aquatic Biology (BIO 2113, WFA 3133)                     |
| EPY 2513                            | Human Growth and Development                     | CVM 4134                      | Aquatic Animal Health (any microbiology, any physiology) |
| EPY 3503                            | Principles of Educational Psychology             | GG 3613                       | Water Resources (GG 1113)                                |
| EPY 3543                            | Psychology of Adolescence                        | GG 4523                       | Coastal Environments (GG 4523)                           |
| FO 4113                             | Forest Resource Economics (AEC 2713)             | <b>ZOOLOGY ELECTIVES</b>      |  |
| GR 1123                             | Introduction to World Geography                  | WFA 4113                      | Animal Behavior  |
| GR 2013                             | Human Geography                                  | WFA 4453                      | Ichthyology (WFA 3133)                                   |
| HDFS 1813                           | Development through the Lifespan                 | BIO 2103                      | Cell Biology (6 hours Biology, CH 1223)                  |
| HON 1173                            | The West and the Wider World                     | BIO 3304                      | General Microbiology (CH 1053 or CH 1223)                |
| HON 3143                            | Hon Seminar in Soc Sci (SO)(EN 1103, EN 1113)    | BIO 3524                      | Biology of Vertebrates                                   |
| PO 1013                             | Animal Agriculture & Society: Food for Thought   | EPP 2213                      | Intro to Insects   |
| PS 1113                             | American Government                              | EPP 4154                      | General Entomology                                       |
| PS 1313                             | Introduction to International Relations          | EPP 4313                      | Forensic Entomology                                      |
| PS 1513                             | Comparative Government                           | <b>CROP SCIENCE ELECTIVES</b> |  |
| PSY 1013                            | General Psychology                               | EPP 4113                      | Principles of Plant Pathology                            |
| PSY 3073                            | Psychology of Interpersonal Relations (PSY 1013) | EPP 4263                      | Principles of Insect Pest Mgt                            |
| SO 1003                             | Introduction to Sociology                        | PSS 3133                      | Intro to Weed Science                                    |
| SO 1103                             | Contemporary Social Problems                     | PSS 4103                      | Forage and Pasture Crops                                 |
| SO 1203                             | Sociology of Families                            | PSS 4123                      | Grain Crops  |
| <b>WFA SOCIAL SCIENCE ELECTIVES</b> |  | PSS 4133                      | Fiber and Oilseed Crops                                  |
| AEC 2713                            | Intro to Food & Resource Econ                    | PSS 4453                      | Vegetable Production                                     |
| EC 2113                             | Prin of Macroeconomics (SO)                      | PSS 4633                      | Weed Biology   |
| EC 2123                             | Prin of Microeconomics (SO)                      |                               |  |
| EC 4043                             | Survey of Economics (SR)                         |                               |  |
| GR 2013                             | Human Geography                                  |                               |  |
| PS 1113                             | American Government                              |                               |  |
| PS 1313                             | Intro to International Relations                 |                               |  |
| SO 1003                             | Intro to Sociology                               |                               |  |

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| ANIMAL SCIENCE ELECTIVES |   | WLAC PROFESSIONAL ELECTIVES |   |
|--------------------------|---|-----------------------------|---|
| ADS 1113                 | Animal Science                                      | WFA 4000                    | Directed Indiv Study (3 hours max)              |
| ADS 3312                 | Livestock Management Practices (ADS 1113, ADS 1121) | WFA 4183                    | Prin & Prac of Aquaculture (BIO 1134, BIO 1144) |
| ADS 4123                 | Animal Breeding (PO 3103, ST 2113)                  | WFA 4273                    | Eco Mgt Human Wildlife Conflicts (WFA 3133)     |
| ADS 4223                 | Goat and Sheep Production (ADS 1113, ADS 1121)      | WFA 4283                    | Human Wildlife Conflict Techniques (WFA 3133)   |
| ADS 4323                 | Beef Cattle Science (ADS 1113, ADS 1121)            | WFA 4373                    | Cons in Ag Landscapes                           |
| ADS 4813                 | Dairy Farm Mgt (ADS 1113, ADS 1121)                 | WFA 4383                    | Wetlands Ecology (WFA 3133)                     |
| LIFE SCIENCE ELECTIVES   |   | WFA 4613                    | Landscape Ecology (WFA 3133, ST 2113)           |
| WFA 4173                 | Fish Physiology (BIO 1134, BIO 1144)                | WFA 4484                    | Upland Avian Ecology (WFA 3133, WFA 4153)       |
| WFA 4263                 | Wildlife Diseases (BIO 1134, BIO 1144)              | WFA                         | Any Upper-Level WFA Course                      |
| WFA 4323                 | Wildlife Nutrition and Phys (BIO 1134, BIO 1144)    | ABE 4313                    | Bio Treatment of NPS Pollution                  |
| ADS 1113                 | Animal Science (WLAC Only)                          | AEC 1223                    | Comp Appl for Ag and Life Sci                   |
| ADS 1121                 | Animal Science Lab                                  | AEC 2713                    | Intro to Food & Resource Economics              |
| ADS 4114                 | Animal Nutrition (CH 2503/2501 OR CH 4513/4511)     | BIO 2503                    | Environmental Quality (one BIO course)          |
| BIO 3303                 | Parasitology (BIO 1134)                             | BIO 4143                    | Population Genetics (BIO 1134, BIO 1144)        |
| BIO 3504                 | Comparative Anatomy (BIO 1134, BIO 1144)            | BIO 4233                    | Living with Global Change                       |
| BIO 4514                 | Animal Physiology (10 hrs Bio Sci & Org Chem)       | BIO 4603                    | Ethnobotany (BIO 1134, BIO 1144)                |
| PO 4324                  | Avian Reproduction                                  | EPP 4154                    | General Entomology                              |
| VS 3014                  | Anatomy and Physiology                              | FO 3103                     | Comp Appl in Forest Resources (one CFR course)  |
|                          |   | FO 3203                     | Forest Fire                                     |
|                          |   | FO 4123                     | Forest Ecology (FO 3012)                        |
|                          |   | FO 4223                     | Silviculture (FO 4123)                          |
|                          |   | FO 4221                     | Silviculture Lab (co-req: FO 4223)              |
|                          |   | GG 3133                     | Intro Environ Geology (GG 1113)                 |
|                          |   | GG 3613                     | Water Resources (GG 1113)                       |
|                          |   | GR 2313                     | Maps and Remote Sensing                         |
|                          |   | GR 3113                     | Cons Nat Resources                              |
|                          |   | GR 4313                     | Advanced GIS (GR 4303)                          |
|                          |   | PSS 4333                    | Soil Cons & Land Use (PSS 3303)                 |
|                          |   | PSS 4373                    | Geospatial Agronomic Ag (PSS 3303, PSS 3133)    |
|                          |   | PSS 4633                    | Weed Ecology (BIO 2113, PSS 3133)               |

### APPROVED SUBSTITUTIONS LIST FOR WILDLIFE AGRICULTURE CONSERVATION SCIENCE CONCENTRATION

| Required Courses               | Approved Substitution   |
|--------------------------------|---|
| BIO 3103 Genetics              | BIO 4143 Population Genetics (BIO 1134, BIO 1144)   |
| MA 1613 Calc. Bus/Life Science | MA 1713 Calculus I  |
| WFA 4253 Appl of GIS in WF.    | FO 4313 Spatial Tech in Nat. Res. Mgt. (FO 3015 or GR 2313)<br>FO 4473 GIS Nat Res. Mgt.<br>GR 2313 Maps and Remote Sensing<br>GR 3303 Survey of Geospatial Tech (GR 2313)<br>GR 4303 Principles of GIS<br>GR 4313 Advanced GIS |
| WFA 4173 Fish Physiology       | CVM 4134 Aqua Anim Health Mgt. (BIO 3304, Physiology)   |