

## *Matrix Planned Biology Courses For 2019 - 2020 (tentative)*

Category	Autumn 2019	Winter 2020	Spring 2020
<b>Foundation Courses</b>	<b>BIOL 350</b> (3) - Foundations in Physiology <b>BIOL 355</b> (3) - Foundations in Molec Cell Biology <u><b>BIOL 356</b></u> (3) - Foundations in Ecology	<b>BIOL 350</b> (3) - Foundations in Physiology <b>BIOL 354</b> (3) - Foundations in Evol & Systematics <b>BIOL 355</b> (3) - Foundations in Molec Cell Biology <u><b>BIOL 356</b></u> (3) - Foundations in Ecology	<b>BIOL 350</b> (3) - Foundations in Physiology <b>BIOL 354</b> (3) - Foundations in Evol & Systematics <b>BIOL 355</b> (3) - Foundations in Molec Cell Biology
<b>Natural History / Biodiversity Course *</b>	<b>BIOL 280</b> (4) - History of Life <u><b>BIOL 438</b></u> (5) - <u>Quant. Approaches to Paleobio.</u> <u><b>BIOL 444</b></u> (5) - <u>Orinthology</u>	<u><b>BIOL 311</b></u> (5) - <u>Biology of Fishes</u> <u><b>BIOL 433</b></u> (5) - <u>Marine Ecology</u> <u><b>BIOL 434</b></u> (5) - <u>Invertebrate Zoology</u> <u><b>BIOL 450</b></u> (5) - <u>Vertebrate Paleontology</u> <u><b>BIOL 451</b></u> (5) - <u>Invertebrate Paleontology</u> <u><b>BIOL 453</b></u> (5) - <u>Comp Anatomy of Vertebrates *</u>	<u><b>BIOL 317</b></u> (5) - <u>Plant ID &amp; Classification</u> <b>BIOL 331</b> (3) - Landscape Plant Recognition <u><b>BIOL 440</b></u> (5) - <u>General Mycology</u>
<b>Molecular Cell Developmental Biology Courses</b>	<u><b>BIOL 302</b></u> (4) - <u>Lab Techniques in Cell&amp; Molec Bio</u> <b>BIOL 411</b> (4) - Developmental Biology <b>BIOL 416</b> (3) - Development of Plant Genetics <b>BIOL 431</b> (1) - Cannabinoids, Plant and Human <b>BIOL 464</b> (2) - Molecular Mechanisms of Cancer Seminar <b>BIOL 485</b> (2) - Senior Seminars in MCD	<u><b>BIOL 302</b></u> (4) - <u>Lab Techniques in Cell&amp; Molec Bio</u> <u><b>BIOL 413</b></u> (4) - <u>Molec Genetics of Development</u> <b>BIOL 431</b> (1) - Cannabinoids, Plant and Human <b>BIOL 459</b> (3) - Developmental Neurobiology <b>BIOL 485</b> (2) - Senior Seminars in MCD <b>BIOL 495</b> (3) - Biology of Fermentation	<u><b>BIOL 302</b></u> (4) - <u>Lab Techniques in Cell&amp; Molec Bio</u> <u><b>BIOL 400</b></u> (4) - <u>Experiments in Molecular Bio.</u> <b>BIOL 401</b> (3) - Advanced Cell Biology <u><b>BIOL 402</b></u> (4) - <u>Functional Genomics</u> <b>BIOL 405</b> (3) - Cell & Molec Biol of Human Disease <b>BIOL 410</b> (2) - Current Topics in Molec. & Cell Biol <b>BIOL 411</b> (4) - Developmental Biology <u><b>BIOL/GENOME 414</b></u> (5) - <u>Molecular Evolution</u> <b>BIOL 485</b> (2) - Senior Seminars in MCD
<b>Physiology Courses *</b>	<u><b>BIOL 310</b></u> (5) - <u>Survey of Human Anatomy</u> <u><b>BIOL 427</b></u> (5) - <u>Biomechanics</u> <b>BIOL 465</b> (3) - Comparative Endocrinology <b>BIOL 468</b> (3) - Medical Physiology	<u><b>BIOL/ESRM 424/478</b></u> (5) - <u>Plant Eco-Physiology</u> <u><b>BIOL 425</b></u> (5) - <u>Plant Physiology and Development</u> <u><b>BIOL 453</b></u> (5) - <u>Comp Anatomy of Vertebrates *</u> <b>BIOL 455</b> (4) - Human Immuno & Patho <b>BIOL 457</b> (3) - Chemical Communication	<u><b>BIOL 310</b></u> (5) - <u>Survey of Human Anatomy</u> <b>BIOL 417</b> (4) - Reproductive Physio <b>BIOL 422</b> (3) - Behavior of Plants <u><b>BIOL 428</b></u> (4) - <u>Sensory Neurophys and Ecol</u> <b>BIOL 465</b> (3) - Comparative Endocrinology <b>BIOL 467</b> (3) - Comparative Animal Physiology
<b>Ecology, Evolution, Systematics, and Conservation Courses</b>	<b>BIOL 315</b> (3) - Biol. Impacts of Climate Change <u><b>BIOL 447</b></u> (5) - <u>Greening the Earth</u> <u><b>BIOL/FISH 473/474</b></u> (3/2) - <u>Limnology &amp; Lab</u> <u><b>BIOL 481</b></u> (5) - <u>Experimental Ecology &amp; Evolution</u> <b>BIOL 483</b> (1) - Senior Seminar in Paleobiology	<b>BIOL 423</b> (3) - Marine Ecological Processes <u><b>BIOL 433</b></u> (5) - <u>Marine Ecology</u> <b>BIOL 483</b> (1) - Senior Seminar in Paleobiology <b>BIOL 486</b> (2) - Senior Seminar in Ecology	<b>BIOL 315</b> (3) - Biol. Impacts of Climate Change <b>BIOL 467</b> (3) - Conservation Biology (no lab) <b>BIOL 469</b> (3) - Evolution and Medicine <b>BIOL 470</b> (4) - Biogeography <u><b>BIOL 480</b></u> (4) - <u>Field Ecology</u> <b>BIOL 483</b> (1) - Senior Seminar in Paleobiology
<b>Counts for all degrees</b>	<b>BIOL 359</b> (3) - Quantitative Biology <b>BIOL 396</b> (1-4) - Peer Facilitation	<b>BIOL 396</b> (1-4) - Peer Facilitation <b>BIOL 419</b> (3) - Data Science for Biologists	<b>BIOL 305</b> (3) - Video Storytelling <b>BIOL 359</b> (3) - Quantitative Biology <b>BIOL 396</b> (1-4) - Peer Facilitation <b>BIOL 492</b> (3) - Teaching Biology Inclusively <b>BIOL 494</b> (3) - Controversies in Biology
<b>Plant Seminars</b>	<b>BIOL 490</b> (2) - Senior Seminar w/Ammirati	<b>BIOL 489</b> (2) - Plant Seminar	

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Underlined courses indicate a lab class

\* may count for only one area requirement - Natural history or adv electives

***Selected Additional Courses For 2019 - 2020<sup>1</sup> (tentative)***

	<b>Autumn 2019</b>	<b>Winter 2020</b>	<b>Spring 2020</b>
<b>Genetics</b>	<b>FISH/BIOL 340</b> (5) - Genetics & Molecular Ecol <b>GENOME 361</b> (3) - Fundamentals of Genetics <b>GENOME 371</b> (5) - Intro Genetics	<b>GENOME 361</b> (3) - Fundamentals of Genetics	<b>FISH/BIOL 340</b> (5) - Genetics & Molecular Ecol <b>GENOME 361</b> (3) - Fundamentals of Genetics
<b>Math and Stats</b>	<b>Q SCI 291</b> (5) - Calculus for Biologists I <b>Q SCI 482</b> (5) - Stat Infer in Appl Research	<b>Q SCI 291</b> (5) - Calculus for Biologists <b>Q SCI 292</b> (5) - Calculus for Biologists II <b>Q SCI 482</b> (5) - Stat Infer in Appl Research	<b>Q SCI 292</b> (5) - Calculus for Biologists II
<b>Natural History / Biodiversity Course</b>	<b>ESRM 452</b> (3) - Field Ornithology <b>ESRM 456</b> (3) - Biol & Cons of Birds <b>FISH 450</b> (3) - Salmonid Beh & Life Hist		<b>ESRM 435</b> (3) - Insect Ecology <b>ESRM 453</b> (3) - Biology and Conservation of Mammals <b>FISH 475</b> (5) - <u>Marine Mammalogy</u>
<b>General Biology Electives</b>	<b>BH 402</b> (5) - Ethical Theory <b>MICROM 301/302L</b> (3/2) - <i>Intro to Microbio/Lab</i>	<b>BH 421</b> (5) - History of Eugenics <b>BH 444</b> (3) - Ethical Implications of Emerging Biotech	<b>BH 420</b> (3) -Philosophical Problems in Bioethics <b>GWSS/ PSYCH 357</b> (5) - Psychobiology of Women <b>MICROM 301/302L</b> (3/2) - <i>Intro to Microbio/Lab</i>
<b>Molecular Cell Developmental Biology Courses</b>	<b>BIOC 405</b> (3) - Survey in Biochemistry <b>BIOC 440</b> (4) - Biochemistry <b>BIOC 446L</b> (4) - <u>Biochemistry Lab</u> <b>GENOME 372</b> (5) - Genomics and Proteomics <b>IMMUNO 441</b> (4) - Intro to Immunology <b>MICROM 402L</b> (3) - <u>Fund of Gen Micro Lab</u> <b>MICROM 410</b> (3) - Fund of Gen Micro	<b>BIOC 405</b> (3) - Survey in Biochemistry <b>BIOC 406</b> (3) - Survey in Biochemistry <b>BIOC 441</b> (4) - Biochemistry <b>GENOME 465</b> (4) - Adv Human Genetics <b>GENOME 466</b> (4) - Cancer Genetics <b>MICROM 431L</b> (3) - <u>Prok. Recomb DNA Tech</u> <b>MICROM 442</b> (3) - Medical Bacteriology	<b>BIOC 406</b> (3) - Survey in Biochemistry <b>BIOC 442</b> (4) - Biochemistry <b>BIOC 446L</b> (4) - <u>Biochemistry Lab</u> <b>GENOME 373</b> (5) - Genome Informatics <b>GENOME 475</b> (3) - Debates in Genetics <b>MICROM 402L</b> (3) - <u>Fund of Gen Micro Lab</u> <b>MICROM 412</b> (3) - Prokaryotic Diversity <b>MICROM 445</b> (3) - Medical Virology <b>MICROM 460</b> (3) - Med. Mycology & Parasitology
<b>Physiology Courses</b>		<b>FISH 324</b> (3/5L) - <u>Aquatic Physiology and Repro</u> <b>NUTR 406</b> (3) - Sports Nutrition	<b>FISH 441</b> (3/5L) - <u>Environmental Physiology</u>
<b>Ecology, Evolution, Systematics, and Conservation Courses</b>	<b>ESRM 250</b> (5) - Intro to GIS <b>ESRM 350</b> (5) - Wildlife Biology & Cons. <b>ESRM/ENVIR 362</b> (5) - Intro to Rest Ecol <b>ESRM 441</b> (5) - Landscape Ecology <b>ESRM 465</b> (3) - Econ of Conservation <b>ESRM 470</b> (5) - Natural Res Policy & Planning <b>GEOG 360</b> (5) - Principles of GIS Mapping	<b>ESRM 400</b> (3) - Natural Resource Conflict Mgmt <b>ESRM 430</b> (3) - Hyperspatial Remote Sensing <b>ESRM 450</b> (5) - Wildlife Ecology & Cons. <b>ESRM 457</b> (3/5) - Fish and Wildlife Toxicology <b>ESRM 458</b> (5) - Mgmt of Thrt, Endgd, Sens Sp <b>FISH 423</b> (4) - Aquatic Invasion Ecology <b>FISH 427</b> (5) - Tropical Marine Ecology <b>FISH 444</b> (5) - Conservation Genetics <b>FISH 450</b> (3) - Marine GIS <b>PSYCH 300</b> (5) - Animal Behavior	<b>ESRM 250</b> (5) - Intro to GIS <b>ESRM 459</b> (3) -Wildlife Cons. in NW Ecosystems <b>FISH 330</b> (5) - Climate Change Imp. on Marine Systems <b>FISH 404</b> (5) -Diseases of Aquatic Animals <b>GEOG 360</b> (5) - Principles of GIS Mapping <b>PSYCH 419</b> (5) - Behavioral Stds of Zoo Animals
<b>Plant Biology</b>	<b>ESRM 415</b> (5) - Terrestrial Invasion Ecology	<b>ESRM 402</b> - Plant Microbiology seminar	<b>ESRM 411</b> (3) - Plant Propagation: Princ. & Practice <b>ESRM 412</b> (3) - Native Plant Production

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<sup>1</sup> **CAUTION** - Not all courses here have been approved for all specific degree options. It is the student's responsibility to determine if a course has been approved, if not then a petition must be submitted. Please refer to an advisor for further clarification.