

Drexel University
 Department of Biology
 Major Sheet for Biological Sciences – Organismal/Physiology Concentration

Name _____

Student Number _____

Humanities and Social Sciences (33 credits)

- __ ENGL 101 3 Exp Writing and Reading
- __ ENGL 102 3 Personal Writing and Reading
- __ ENGL 103 3 Analytical Writing and Reading
- __ COM 230 3 Techniques of Speaking
- __ COM 310 3 Technical Writing
- __ PHIL 251 3 Ethics
- __ UNIV 101 1 The Drexel Experience (Fall)
- __ UNIV 101 2 The Drexel Experience (Winter)

Humanities and Social Science Electives (9 credits)

Science, Technology & Human Affairs Elective (3 credits)

Choose from:

- | | | |
|----------|----------|----------|
| ANTH 210 | HIST 290 | PHIL 341 |
| HIST 280 | HIST 292 | PHIL 351 |
| HIST 281 | ENGL 300 | PHIL 361 |
| HIST 285 | ENGL 302 | PSCI 371 |
| HIST 286 | SOC 235 | CJ 279 |
| NFS 446 | BIO 212 | CJ 378 |

Mathematics and Statistics (18 credits)

- __ MATH101 4 Intro to Analysis I **OR** MATH 121
- __ MATH102 4 Intro to Analysis II **OR** MATH 122
- __ MATH239 4 Math for the Life Sci **OR** MATH 123
- __ MATH410 3 Scientific Data Analysis I
- __ MATH411 3 Scientific Data Analysis II

Physical Sciences (42 credits)

- __ CHEM 101 3.5 General Chemistry I
- __ CHEM 102 4.5 General Chemistry II
- __ CHEM 103 5 General Chemistry III
- __ CHEM 241 4 Organic Chemistry I
- __ CHEM 242 4 Organic Chemistry II
- __ CHEM 243 3 Organic Chemistry III
- __ CHEM 244 3 Organic Chemistry I Lab
- __ CHEM 245 3 Organic Chemistry II Lab
- __ PHYS 152 4 Introductory Physics I
- __ PHYS 153 4 Introductory Physics II
- __ PHYS 154 4 Introductory Physics III

Co-op Placements

Biology Required Courses (36 credits)

- __ BIO 122 4.5 Cells & Genetics
- __ BIO 124 4.5 Evolution & Org Diversity
- __ BIO 126 4.5 Physiology & Ecology
- __ BIO 217 4 Evolution
- __ BIO 218 4 Principles of Molecular Biology
- __ BIO 219 2.5 Techniques in Molecular Biology
- __ BIO 224 4 Form, Func & Evol of Vertebrates
- __ BIO 225 2 Vertebrate Bio & Evol Lab
- __ BIO 471 2 Seminar in Biological Science
- __ BIO 472 2 Seminar in Biological Science
- __ BIO 473 2 Seminar in Biological Science

A.) Org/Phys Conc. Requirements (4 courses, min 14 crs)

- __ BIO 214 3 Principles of Cell Bio **OR** BIO 311 Metabolism
 - __ BIO 221 3 Microbiology **OR** BIO 223 Parasitology **OR** BIO 260 Plant Biology I **OR** BIO 322 Mycology **OR** BIO 420 Virology
 - __ *BIO 201 4 Human Physiology I
 - __ *BIO 203 4 Human Physiology II
- (*or Bio 254 Invert Morph & Phys + Bio 256 Vert M&P)

B.) Org/Phys Conc. Electives (min 4 courses, 12 crs)

Cell/Mol Bio/Genetics/Biochemistry Elective (1 course)

Organismal/Physiology Elective (2 courses)

Evol Bio/Ecology Elective (1 course)

C. Laboratory courses (minimum of 2 courses, 4 credits)

Free Electives (24 credits – minimum 8 courses)

A minimum of **181 credits** and 2.00 GPA are required for graduation

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Organismal/Physiology CONCENTRATION ELECTIVES

Cell/Mol Bio/Genetics/Biochem Electives

Pick one of the following

BIO 214 Principles of Cell Biology	3 credits
BIO 244 Genetics	3 credits
BIO 270 Developmental Biology	3 credits
BIO 311 Metabolism	4 credits
BIO 314 Pharmacology	3 credits
BIO 318 Biology of Cancer	3 credits
BIO 346 Stem Cell Research	3 credits
BIO 404 Struct & Func of Biomolecules	4 credits
BIO 413 Genomics	3 credits
BIO 430 Cell Biology of Disease	3 credits
BIO 444 Human Genetics	3 credits
BIO 449 Recombinant DNA Laboratory*	5 credits
BIO 498 Independent Study (by permission of department)	

Organismal/Physiology Electives

Pick two of the following

BIO 201 Human Physiology I	4 credits
BIO 203 Human Physiology II	4 credits
BIO 221 Microbiology+	3 credits
BIO 223 Parasitology	3 credits
BIO 254 Invert Morph & Phys+	3 credits
BIO 256 Vertebrate Morph & Phys*	5 credits
BIO 264 Ethnobotany	3 credits
BIO 262 Plant Biology II	4 credits
BIO 284 Biology of Stress	3 credits
BIO 310 Comparative Physiology	3 credits
BIO 320 Microbial Pathogenesis	3 credits
BIO 322 Mycology	4.5 credits
BIO 368 Embryology	4 credits
BIO 370 Teratology	3 credits
BIO 386 Gross Anatomy+	3 credits
BIO 412 Biology of Aging	3 credits
BIO 420 Virology	3 credits
BIO 424 Microbial Physiology	5 credits
BIO 426 Immunology	3 credits
BIO 435 Adv Immunology	3 credits
BIO 466 Endocrinology	4 credits
ENVS 321 Environmental Health	3 credits
ENVS 392 Ichthyology & Herpetology	3 credits
ENVS 431 Epidemiology	3 credits
ENVS 436 Principles of Toxicology I	3 credits
ENVS 437 Principles of Toxicology II	3 credits
PBHL 401 Epidemiology of Public Health	3 credits

Evolutionary Bio/Ecology Electives

***Pick one of the following**

ENVS 230 General Ecology	3 credits
ENVS 270 History of Life on Earth	3 credits
ENVS 271 Dinosaurs and Their World	3 credits

ENVS 284 Phys and Pop Ecology	3 credits
ENVS 286 Comm and Ecosys Ecology	3 credits
ENVS 322 Tropical Ecology	3 credits
ENVS 323 Tropical Field Studies	3 credits
ENVS 330 Aquatic Ecology	3 credits
ENVS 336 Terrestrial Ecology	3 credits
ENVS 338 Biodiversity and Conservation	3 credits
ENVS 364 Animal Behavior	3 credits
ENVS 375 Invertebrate Paleontology	4 credits
ENVS 388 Marine Field Methods*	5 credits
ENVS 390 Marine Ecology	3 credits
ENVS 441 Iss in Global Change I: Sem	2 credits
ENVS 476 Paleobotany	3 credits
ENVS 477 Vertebrate Paleontology	3 credits
ENVS 520 Fld Mthds Paleocology	3 credits
ENVS 382 Field Botany: NJ Pine Barrens *	5 credits
ENVS 383 Ecology of NJ Pine Barrens*	5 credits

Laboratory Electives

Pick two of the following

BIO 202 Human Physiology Laboratory	2 credits
BIO 215 Tech Cell Biology	2 credits
BIO 222 Microbiology Lab+	2 credits
BIO 271 Developmental Bio Lab	2 credits
BIO 255 Invert Morph & Phys Lab+	2 credits
BIO 256 Vertebrate Morph & Phys*	5 credits
BIO 306 Biochemistry Laboratory	2 credits
BIO 313 Comp Physiology Lab	2 credits
BIO 387 Gross Anatomy Lab+	2 credits
BIO 406 Comp Biochemistry laboratory	2 credits
BIO 427 Immunology Lab	2 credits
BIO 449 Recombinant DNA Laboratory*	5 credits
BIO 497 Research (by permission of dept)	0.5 – 12 credits
ENVS 285 Population Ecology Lab	2 credits
ENVS 287 Community Ecology Lab	2 credits
ENVS 336 Terrestrial Ecology *	5 credits
ENVS 365 Animal Behavior Lab	2 credits
ENVS 382 Field Botany: NJ Pine Barrens *	5 credits
ENVS 383 Ecology of NJ Pine Barrens*	5 credits
ENVS 388 Marine Field Methods *	5 credits

* Have both a lecture and laboratory component- 3 credits apply to lecture; 2 credits apply to lab

** Have both a lecture and laboratory component- 2 credits apply to lecture; 2 credits apply to lab

+ Lecture and lab must be taken together

Pre-requisites must be met before taking a course

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