

BIOLOGY (BS) MAJOR

NATURAL SCIENCES DEPARTMENT

MAJOR CHECKLIST FALL 2020 – SUMMER 2021

This checklist aids in placement of students into their major coursework and documents the department evaluation of transferred credit and course waivers, based on coursework listed on the Degree Audit Report (DARs). A student must complete General Education and Liberal Studies (GELS) along with other graduation requirements for graduation – refer to your DARs. All coursework for the major must be completed with the grade of C- or better.

| Student Name | Metro State ID # | Admission Date or Semester |
|--------------|------------------|------------------------------|
| | | |
| Advisor Name | Evaluation Date | Declaration Date or Semester |
| | | |

MATH & PRE-MAJOR FOUNDATION: 16 CREDITS

Each foundation science course must include at least one semester credit of professionally supervised, on-ground laboratory experience with standard undergraduate laboratory equipment and materials. Note that Math foundation courses are pre-requisites that do not count toward major credit totals.

| Course # | Title | Transfer Equivalent Details | Grade | Credits | Term |
|---|-----------------------------------|-----------------------------|-------|---------|------|
| MATH 115 OR MATH 120 OR Placement | College Algebra OR Precalculus | | | | |
| BIOL 111 | General Biology I | | | | |
| BIOL 112 | General Biology II | | | | |
| CHEM 111 | General Chemistry I | | | | |
| CHEM 112 | General Chemistry II | | | | |

CORE REQUIREMENTS FOR MAJOR: 23-27 CREDITS

| Course # | Title | Transfer Equivalent Details | Grade | Credits | Term |
|--------------------|--------------------------------|-----------------------------|-------|---------|------|
| BIOL 211 | Principles of Genetics | | | 4 | |
| CHEM 231 & 231L | Organic Chemistry I and lab | | | 5 | |
| PHYS 211 | Calculus Based Physics I | | | 5 | |

| Course # | Title | Transfer Equivalent Details | Grade | Credits | Term |
|---------------------------------------|---|-----------------------------|-------|---------|------|
| MATH 208 OR MATH 210 & MATH 211 | Applied Calculus OR Calculus I and II | | | 4-8 | |
| CHEM 332 & 332L OR PHYS 212 | Organic Chemistry II and lab OR Calculus-based Physics II | | | 5 | |

UPPER-DIVISION BIOLOGY CORE COURSES: 15 CREDITS

Select one course with lab in each of the three core categories.

CELL AND MOLECULAR COURSE OPTIONS – SELECT ONE

| Course # | Title | Transfer Equivalent Details | Grade | Credits | Term |
|-------------------------|----------------------------|-----------------------------|-------|---------|------|
| BIOL 302 | Cell Biology and Histology | | | 5 | |
| BIOL 304 | Molecular Biology | | | 5 | |
| BIOL 307 or CHEM 301 | Biochemistry | | | 5 | |

ECOLOGY AND EVOLUTIONARY COURSE OPTIONS – SELECT ONE

| Course # | Title | Transfer Equivalent Details | Grade | Credits | Term |
|----------|--------------------|-----------------------------|-------|---------|------|
| BIOL 310 | Ecology | | | 5 | |
| BIOL 312 | Evolution | | | 5 | |
| BIOL 316 | Behavioral Ecology | | | 5 | |
| ESCI 315 | Limnology | | | 5 | |

PHYSIOLOGY AND ORGANISMAL COURSE OPTIONS – SELECT ONE

| Course # | Title | Transfer Equivalent Details | Grade | Credits | Term |
|----------|----------------------------------|-----------------------------|-------|---------|------|
| BIOL 311 | Plant Physiology | | | 5 | |
| BIOL 322 | Comparative Animal Physiology | | | 5 | |
| BIOL 324 | Invertebrate Biology | | | 5 | |
| BIOL 330 | Biology of Microorganisms | | | 5 | |

CAPSTONE AND ELECTIVE COURSE REQUIREMENT: 14 CREDITS

An additional 14 credits of upper-division biology courses chosen from the list of core courses above, the list of elective courses below, and other approved 300 or 400 level biology courses (see advisor for details). Research and internship cannot exceed five credits toward the elective requirement.

300-LEVEL ELECTIVE OPTIONS

This upper division elective category includes the core courses listed above and the following courses.

| Course # | Title | Grade | Credits | Term |
|-----------|------------------------------|-------|---------|------|
| ESCI 320 | Ecosystem and Global Ecology | | 5 | |
| BIOL 350I | Internship in Biology | | 1-4 | |

400 AND 500-LEVEL ELECTIVE OPTIONS

A minimum of three credits is required in this upper division elective category.

| Course # | Title | Grade | Credits | Term | Course # | Title | Grade | Credits | Term |
|----------|----------------------------|-------|---------|------|-----------|---------------------------------------|-------|---------|------|
| BIOL 406 | Biology of Cancer | | 3 | | BIOL 489 | Senior Research in Biology | | 1-4 | |
| BIOL 415 | Pollution Ecology | | 3 | | BIOL 490H | Honors Research Project | | 1-4 | |
| BIOL 416 | Invasion Biology | | 3 | | BIOL 511H | Honors Freshwater Ecology and Quality | | 3 | |
| BIOL 418 | GIS for Natural Sciences | | 3 | | BIOL 512H | Honors Insect Ecology and Management | | 3 | |
| BIOL 422 | Neurophysiology | | 3 | | BIOL 513H | Honors Wetland Ecology | | 3 | |
| BIOL 426 | Comparative Biomechanics | | 3 | | BIOL 514H | Honors Forest Ecology | | 3 | |
| BIOL 469 | Seminars in Biology | | 1 | | CHEM 421 | Medicinal Chemistry | | 3 | |
| BIOL 471 | Science Journal Discussion | | 1-2 | | | | | | |
| BIOL 479 | Advance Topics in Biology | | 1-5 | | | | | | |

Subject to advisor approval, up to 4 credits of BIOL 221, BIOL 225 or another 200-level biology course may be used to fulfill this elective category.

| 200-level Course # | Title | Transfer Equivalent Details | Grade | Credits | ✓ |
|--------------------|-------|-----------------------------|-------|---------|---|
| | | | | | |
| | | | | | |

ADDITIONAL NOTES, CREDIT TOTALS OR COMMENTS:

Academic advisor notes:

GRADUATION REQUIREMENTS

Below is a summary of residency and graduation requirements for this major and used as an advising tool as you work toward completion. Students are advised to reference their DARs for official graduation requirements.

| Major Requirements Checklist | In Progress | Completed |
|---|-------------|-----------|
| 68 Major credits | | |
| 25 Metro State Major Credits | | |
| 25 Upper Division Major (300 or higher) | | |

| University Requirements Checklist | In Progress | Completed |
|-----------------------------------|----------------------|-----------|
| 120 Total Credits (minimum) | | |
| 30 Metro State Credits | | |
| 40 Upper Division (300 or higher) | | |
| 48 credits GELS +RIGR | See DARs for details | |

NATURAL SCIENCES DEPARTMENT CONTACT INFORMATION

For specific questions about this major program or equivalencies of prior coursework at other institutions, contact the Chair of the Natural Sciences Department at:

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