



Access & Excellence

**MONTANA STATE UNIVERSITY-BILLINGS
BACHELOR OF SCIENCE MAJOR IN BIOLOGY
GENERAL BULLETIN 2003-2005**

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Name _____

Student ID # _____

GENERAL EDUCATION REQUIREMENTS – SEE PAGE 4 FOR SPECIFIC COURSES

| General Education Category | Course # | Credits | Grade | Semester | Equivalent |
|--|-----------------|----------------|--------------|-----------------|-------------------|
| Category I: Writing (6 cr.) | ENGL 150 | | | | |
| | | | | | |
| Category II: Oral Skills (3 cr.) | | | | | |
| Category III: Mathematics (3 cr.) | | | | | |
| Category IV: Natural Sciences (7 cr.) (1 life science/1 physical science/1 lab) | | | | | |
| | | | | | |
| | | | | | |
| Category V: Social Sciences (6 cr.) (2 courses from separate prefixes) | | | | | |
| | | | | | |
| Category VI: History (3 cr.) | | | | | |
| Category VII: Cultural Diversity (3 cr.) | | | | | |
| Category VIII: Fine Arts (3 cr.) | | | | | |
| Category IX: Integrated Humanities (3 cr.) | | | | | |

Students should consult with their advisors to determine if specific courses are necessary in order to satisfy the General Education requirements within this program.

Certain courses in this program have prerequisites; students should check the course descriptions for required prerequisites.

| CATEGORY I: WRITING | | | 6 |
|----------------------------|------------|----------------------------|----------|
| <i>ENGL</i> | <i>150</i> | <i>College Composition</i> | 3 |
| ENGL | 210 | Technical Writing | 3 |
| ENGL | 226 | Research Writing | 3 |
| ENGL | 301 | Business Communications | 3 |
| CTCM | 202 | Business Communication | 3 |
| CTCM | 203 | Technical Communication | 3 |

| CATEGORY II: ORAL SKILLS | | | 3 |
|---------------------------------|-----|---------------------------------|----------|
| COMT | 101 | Fundamentals of Communication | 3 |
| COMT | 110 | Interpersonal Communication | 3 |
| COMT | 130 | Introduction to Public Speaking | 3 |
| FREN | 202 | Intermediate French II | 3 |
| GERM | 202 | Intermediate German II | 3 |
| SPAN | 202 | Intermediate Spanish II | 3 |
| CTCM | 109 | Human Relations | 3 |
| CTCM | 130 | Introduction to Public Speaking | 3 |

| CATEGORY III: MATHEMATICS | | | 3 |
|----------------------------------|---------------|------------------------------------|----------|
| FIN | 201, 202, 203 | Personal Financial Planning... | 3 |
| MATH | 106 | College Algebra | 3 |
| MATH | 107 | Precalculus | 5 |
| MATH | 112 | Calculus I | 4 |
| MATH | 121 | Finite Mathematics | 4 |
| MATH | 141 | Contemporary Mathematics | 3 |
| MATH | 161 | Mathematics for Health Sciences | 4 |
| MATH | 202 | Math for Elementary Education II | 3 |
| STAT | 141 | Introduction to Statistics | 3 |
| STAT | 241 | Statistical Methods | 4 |
| CTCM | 122 | College Mathematics for Technology | 3 |

| CATEGORY IV: NATURAL SCIENCE | | | 7 |
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Students are required to take one course from each subcategory and at least one corresponding lab or SCIN 101, 102 & 103

Subcategory A – Life Sciences

| | | | |
|------|-----|---------------------------|---|
| BIOL | 101 | Survey of Biology | 3 |
| BIOL | 115 | Survey of Biology Lab | 1 |
| BIOL | 178 | Principles of Biology | 3 |
| BIOL | 188 | Principles of Biology Lab | 1 |

Subcategory B – Physical Sciences

| | | | |
|------|---------------|---------------------------------------|---------|
| CHEM | 104 | Fund of General & Organic Chemistry | 3 |
| CHEM | 105 | Fund of General & Organic Chem Lab | 1 |
| CHEM | 115 | General Chemistry I | 3 |
| CHEM | 118 | General Chemistry I Lab | 1 |
| EASC | 100 | Lithosphere and Hydrosphere | 3 |
| EASC | 101 | Lithosphere and Hydrosphere Lab | 1 |
| EASC | 120 | Historical Geology & Paleontology | 3 |
| EASC | 121 | Historical Geology & Paleontology Lab | 1 |
| GEOG | 100 | Physical Geography Lab | 1 |
| GEOG | 101 | Physical Geography | 3 |
| PHYS | 101 | Earth, Air, Fire and Water | 3 |
| PHYS | 102 | Earth, Air, Fire and Water Lab | 1 |
| PHYS | 110 | College Physics I | 3 |
| PHYS | 111 | College Physics I Lab | 1 |
| PHYS | 201 | Introduction to Astronomy | 3 |
| PHYS | 203 | Introduction to Astronomy Lab | 1 |
| PSSC | 101 | Physical World Around Us | 3 |
| PSSC | 102 | Physical World Around Us Lab | 1 |
| SCIN | 101, 102, 103 | Integrated Science I, II, III | 3, 1, 3 |

| CATEGORY V: SOCIAL SCIENCE | | | 6 |
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Two courses from separate prefixes

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|------|-----|---------------------------------------|---|
| BUS | 101 | Introduction to Business | 3 |
| ECON | 200 | Principles of Microeconomics | 3 |
| ECON | 201 | Principles of Macroeconomics | 3 |
| EDF | 100 | Educ Persons for a Democratic Society | 3 |

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|------|-----|------------------------------------|---|
| POLS | 101 | Introduction to Government | 3 |
| POLS | 212 | United States Government | 3 |
| PSYC | 101 | General Psychology | 3 |
| SOCL | 101 | Introduction to Sociology | 3 |
| SOCL | 212 | Physical Anthropology & Archeology | 3 |
| SOCL | 221 | Social Problems | 3 |

| CATEGORY VI: HISTORY | | | 3 |
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|------|-----|---|---|
| HIST | 104 | History of World Civilization to 1500 | 3 |
| HIST | 105 | History of World Civilization Since 1500 | 3 |
| HIST | 106 | Honors: History of Western Civ to 1648 | 3 |
| HIST | 107 | Honors: History of Western Civ since 1648 | 3 |
| HIST | 109 | Current World Problems | 3 |
| HIST | 204 | United States History to 1877 | 3 |
| HIST | 205 | United States History Since 1877 | 3 |
| POLS | 221 | International Relations | 3 |

| CATEGORY VII: CULTURAL DIVERSITY | | | 3 |
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| ART | 131 | Global Visual Culture | 3 |
| A&SC/SOCL | 250 | Women, Culture and Society | 3 |
| GEOG | 102 | World Geography | 3 |
| GEOG | 120 | Environment and Culture | 3 |
| HIST | 351 | History of Islamic Civilization | 3 |
| HIST | 353 | The Middle East in the Twentieth Century | 3 |
| MUSC | 150 | Musics of the World | 3 |
| NAMS | 181 | Introduction to Native American Studies | 3 |
| NAMS | 211 | Social Issues of the Native American | 3 |
| PHIL | 105 | The Religious Quest | 3 |
| PHIL | 233 | Phil & Religions of India | 3 |
| PHIL | 234 | Phil & Religions of China, Tibet, & Japan | 3 |
| SOCL | 211 | Cultural Anthropology | 3 |
| SPAN | 150 | The Hispanic Tradition | 3 |

| CATEGORY VIII: FINE ARTS | | | 3 |
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|------|---------|--|---|
| ART | 101 | Fundamentals of Art for Elem Teachers | 3 |
| ART | 110 | Art Studio Essentials for Non-Art Majors | 3 |
| ART | 142 | Introduction to Pottery | 3 |
| ART | 161 | Introduction to Drawing | 3 |
| COMT | 150 | Introduction to Theater | 3 |
| COMT | 155 | Global Cinema | 3 |
| COMT | 250 | Introduction to Acting | 3 |
| ENGL | 160 | Reading and Responding to Literature | 3 |
| ENGL | 204 | Fundamentals of Creative Writing | 3 |
| ENGL | 280 | Fiction into Film | 3 |
| MUSC | 100 | Music Appreciation | 3 |
| MUSC | 160/360 | Symphonic Band | 1 |
| MUSC | 162/362 | Concert Choir | 1 |
| MUSC | 168/368 | Jazz Ensemble | 1 |
| PHIL | 303 | Classical Mythology | 3 |
| CTDR | 248 | CAD Presentations | 3 |

| CATEGORY IX: INTEGRATED HUMANITIES | | | 3 |
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|-----------|-----|---------------------------------------|---|
| ART | 132 | Art History Survey | 3 |
| ENGL | 260 | World Foundations of Literature | 3 |
| HON | 181 | The Ancient and Medieval Worlds | 3 |
| HON | 182 | The Renaissance and the Modern Worlds | 3 |
| MUSC | 340 | Music History to 1750 | 3 |
| MUSC | 341 | Music History 1750 to the Present | 3 |
| PHIL | 107 | Philosophical Inquiry | 3 |
| PHIL | 115 | Ethics | 3 |
| PHIL | 117 | Philosophies of Life | 3 |
| PHIL/ENGL | 240 | The Bible as Literature | 3 |
| PHIL | 250 | Christianity | 3 |
| PHIL | 301 | Death, Dying, and Medical Ethics | 3 |
| PHIL | 311 | Environmental Ethics | 3 |
| PHIL | 314 | Business Ethics | 3 |

| Course | | Credits | Grade | Semester | Equivalent |
|-----------------------------|-----|----------------------------------|-------|----------|------------|
| Biology Requirements | | | | | |
| *BIOL | 178 | Principles of Biology | 3 | | |
| *BIOL | 188 | Principles of Biology Lab | 1 | | |
| BIOL | 179 | Biodiversity | 3 | | |
| BIOL | 189 | Biodiversity Lab | 1 | | |
| BIOL | 263 | Introduction to Cell Biology | 3 | | |
| BIOL | 273 | Introduction to Cell Biology Lab | 1 | | |
| BIOL | 353 | Genetics | 3 | | |
| BIOL | 354 | Genetics Lab | 1 | | |
| BIOL | 355 | Ecology and Evolution | 3 | | |
| BIOL | 356 | Ecology and Evolution Lab | 1 | | |
| BIOL/ CHEM | 361 | Biochemistry | 3 | | |
| BIOL/ CHEM | 371 | Biochemistry Lab | 1 | | |
| BIOL/ CHEM | 363 | Molecular Biology | 3 | | |
| BIOL/ CHEM | 373 | Molecular Biology Lab | 1 | | |
| BIOL | 495 | Biological Research | 2 | | |
| BIOL | 498 | Capstone Seminar | 1 | | |

Unrestricted Biology electives (15 credits – at least 7 credits should be upper division courses)

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Chemistry Requirements

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|-------|-----|--------------------------|---|--|--|
| *CHEM | 115 | General Chemistry I | 3 | | |
| CHEM | 118 | General Chemistry I Lab | 1 | | |
| CHEM | 116 | General Chemistry II | 3 | | |
| CHEM | 119 | General Chemistry II Lab | 1 | | |
| CHEM | 330 | Organic Chemistry I | 3 | | |
| CHEM | 331 | Organic Chemistry I Lab | 1 | | |
| CHEM | 334 | Organic Chemistry II | 3 | | |
| CHEM | 335 | Organic Chemistry II Lab | 1 | | |

Mathematics or Statistics Requirement (choose two of the following)

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|-------|-----|------------------------|---|--|--|--|
| *MATH | 112 | Calculus I | 4 | | | |
| MATH | 113 | Calculus II | 4 | | | |
| *STAT | 241 | Statistical Methods | 4 | | | |
| STAT | 242 | Statistical Methods II | 4 | | | |

*Satisfy General Education requirements.

Physics Requirement (choose one Physics sequence)

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|------|---------|---------------------------|---|--|--|--|
| PHYS | 110/111 | College Physics I/Lab | 4 | | | |
| PHYS | 120/121 | College Physics II/Lab | 4 | | | |
| PHYS | 210/211 | University Physics I/Lab | 4 | | | |
| PHYS | 220/221 | University Physics II/Lab | 4 | | | |
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Recommended Electives

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| CHEM | 320 | Quantitative Chemical Analysis | 3 | | | |
| CHEM | 325 | Quantitative Chemical Analysis Lab | 1 | | | |

Electives

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BACHELOR OF SCIENCE DEGREE IN BIOLOGY

| Categories | Credits | Earned |
|----------------------|---------|--------|
| General Education | 37 | _____ |
| Biology Major | 74 | _____ |
| Electives (variable) | V | _____ |
| Total | 120 | _____ |

It is the student's responsibility to know and meet the requirements for graduation. A minimum of 36 credits must be upper division classes (300 and above).

Note: