

#### Montana State University Billings Advising & Career Services Phone: 406-657-2240 Fax: 406-657-2302 advising@msubillings.edu www.msubillings.edu/advise/

# **ADVISING WORKSHEET**

BACHELOR OF SCIENCE DEGREE MAJOR IN BROADFIELD SCIENCE General Bulletin 2015-2017 **TRANSFER INSTITUTION(S):** 

#### GENERAL EDUCATION REQUIREMENTS – SEE ATTACHED PAGE FOR SPECIFIC COURSES

| <b>General Education Category</b>  | Course # | Credits | Grade | Semester | Equivalent |
|--|----------|---------|-------|----------|------------|
| Category I: Global Academic Skills (9 credits)<br>A. Mathematics (3 credits)         |          |         |       |          |            |
| M 171 is a major requirement   |          |         |       |          |            |
| B. English (3 credits)   |          |         |       |          |            |
|  |          |         |       |          |            |
| C. Communication & Information Literacy (3 credits)                                  |          |         |       |          |            |
| Category II: Natural Sciences (7 credits)  |          |         |       |          |            |
| 2 lectures (6 credits) & 1 lab (1 credit)  |          |         |       |          |            |
| (1 life science & 1 physical science & 1 lab)<br>BIOB 160/161 are major requirements |          |         |       |          |            |
| BIOB 100/101 are major requirements  |          |         |       |          |            |
|  |          |         |       |          |            |
|  |          |         |       |          |            |
|  |          |         |       |          |            |
| Category III: Social Sciences and History (6 credits)                                |          |         |       |          |            |
| A. Social Science (3 credits)  |          |         |       |          |            |
| B. History (3 credits)   |          |         |       |          |            |
| b. History (5 creatis)   |          |         |       |          |            |
|  |          |         |       |          |            |
| Category IV: Cultural Diversity (3 credits)  |          |         |       |          |            |
|  |          |         |       |          |            |
| Category V: Arts & Humanities (6 credits)  |          |         |       |          |            |
| A. Fine Arts (3 credits)   |          |         |       |          |            |
| B. Humanities (3 credits)  |          |         |       |          |            |
|  |          |         |       |          |            |
|  |          | 1       |       |          |            |

A minimum grade of "C-" required in all General Education courses.

Note: Certain degrees may require a minimum grade of "C" in General Education courses.

**Reviewed:** 

# **GENERAL EDUCATION REQUIREMENTS**

| CATEGO   | RYI: (  | GLOBAL ACADEMIC SKILLS                   | 9 credits   |
|----------|---------|--|-------------|
| Students | are req | uired to take one course from each subca | itegory     |
| Subcateg | gory A  | - Mathematics                            | 3 credits   |
| Μ        | 105     | Contemporary Mathematics                 | 3           |
| Μ        | 114     | Extended Technical Mathematics           | 3           |
| Μ        | 121     | College Algebra                          | 3           |
| Μ        | 122     | College Trigonometry                     | 3           |
| Μ        | 131     | Mathematics for Elementary Teachers      | II 3        |
| М        | 143     | Finite Mathematics                       | 4           |
| М        | 161     | Survey of Calculus                       | 3           |
| М        | 171     | Calculus I                               | 4           |
| STAT     | 141     | Introduction to Statistical Concepts     | 3           |
| STAT     | 216     | Introduction to Statistics               | 4           |
| Subcateg | gory B  | - English                                | 3 credits   |
| WRIT     | 101     | College Writing I                        | 3           |
| WRIT     | 121     | Introduction to Technical Writing        | 3           |
| WRIT     | 122     | Introduction to Business Writing         | 3           |
| WRIT     | 201     | College Writing II                       | 3           |
| WRIT     | 220     | Business & Professional Writing          | 3           |
| WRIT     | 221     | Intermediate Technical Writing           | 3           |
| Subcateg | gory C- | · Communication & Information Literacy   | y 3 credits |
| COMX     | 111     | Introduction to Public Speaking          | 3           |
| COMX     | 115     | Introduction to Interpersonal Commun     | ication 3   |
| LSCI     | 125     | Research in the Information Age          | 3           |
| BMIS     | 150     | Computer Literacy                        | 3           |

# CATEGORY II: NATURAL SCIENCES 6 cr. lecture & 1 cr. lab

Students are required to take one course from each subcategory and at least one corresponding lab <u>or</u> Integrated Sciences

| Subcategory A – Life Sciences 3-4 credits |                 |                                  |            |  |  |  |
|---|-----------------|----------------------------------|------------|--|--|--|
|   |                 |                                  |            |  |  |  |
|   |                 | over Biology                     | 3          |  |  |  |
| BIOB 10                                   | 02 Disco        | over Biology Lab                 | 1          |  |  |  |
| BIOB 10                                   | 60 Princ        | iples of Living Systems          | 3          |  |  |  |
| BIOB 10                                   | 61 Princ        | iples of Living Systems Lab      | 1          |  |  |  |
| Subcategor                                | y B – Physi     | ical Sciences 3-4                | 4 credits  |  |  |  |
| ASTR 1                                    | 10 Intro        | duction to Astronomy             | 3          |  |  |  |
| ASTR 1                                    | 11 Intro        | duction to Astronomy Lab         | 1          |  |  |  |
| CHMY 12                                   | 21 Intro        | duction to General Chemistry     | 3          |  |  |  |
| CHMY 12                                   | 22 Intro        | duction to General Chemistry Lab | ) 1        |  |  |  |
| CHMY 14                                   | 41 Colle        | ege Chemistry I                  | 3          |  |  |  |
| CHMY 14                                   | 42 Colle        | ge Chemistry Laboratory I        | 1          |  |  |  |
| GEO 10                                    | 01 Intro        | duction to Physical Geology      | 3          |  |  |  |
| GEO 10                                    | 02 Intro        | duction to Physical Geology Labo | oratory 1  |  |  |  |
| GPHY 1                                    | 11 Intro        | duction to Physical Geography    | 3          |  |  |  |
| GPHY 1                                    | 12 Intro        | duction to Physical Geography La | ib 1       |  |  |  |
| PHSX 10                                   | 03 Our I        | Physical World                   | 3          |  |  |  |
| PHSX 10                                   | 04 Our I        | Physical World Lab               | 1          |  |  |  |
| PHSX 20                                   | 05 Colle        | ege Physics I                    | 3          |  |  |  |
| PHSX 20                                   | 06 Colle        | ege Physics I Lab                | 1          |  |  |  |
| PHSX 10                                   | 05 Fund         | amentals of Physical Science     | 3          |  |  |  |
| PHSX 10                                   | 06 Fund         | amentals of Physical Science Lab | 1          |  |  |  |
| Integrated S                              | Sciences        |                                  |            |  |  |  |
| SCIN 101, 10                              | )2, 103, 104 II | ntegrated Sciences               | 3, 1, 3, 1 |  |  |  |

CATEGORY III: SOCIAL SCIENCES AND HISTORY 6 credits

| Students are required to take one course from each subcategory |          |                                       |        |  |  |  |
|--|----------|---------------------------------------|--------|--|--|--|
| Subcate  | gory A - | – Social Sciences 3 c                 | redits |  |  |  |
| ANTY   | 217      | Physical Anthropology & Archeology    | 3      |  |  |  |
| BGEN   | 105      | Introduction to Business              | 3      |  |  |  |
| COMX   | 106      | Communicating in a Dynamic Workplace  | e 3    |  |  |  |
| ECNS   | 201      | Principles of Microeconomics          | 3      |  |  |  |
| ECNS   | 202      | Principles of Macroeconomics          | 3      |  |  |  |
| EDU  | 105      | Education and Democracy               | 3      |  |  |  |
| GPHY   | 141      | Geography of World Regions            | 3      |  |  |  |
| HTH  | 110      | Personal Health and Wellness          | 3      |  |  |  |
| PSCI   | 220      | Introduction to Comparative Governmen | t 3    |  |  |  |
| PSCI   | 210      | Introduction to American Government   | 3      |  |  |  |
| PSYX   | 100      | Introduction to Psychology            | 3      |  |  |  |
| PSYX   | 231      | Human Relations                       | 3      |  |  |  |
| SOCI   | 101      | Introduction to Sociology             | 3      |  |  |  |
| SOCI   | 201      | Social Problems                       | 3      |  |  |  |
| SOCI   | 201      | Social Problems                       | 3      |  |  |  |

| gory B - | - History                               | 3 credits   |
|----------|---|---|
| 101      | American History I                      | 3   |
| 102      | American History II                     | 3   |
| 101      | Western Civilization I                  | 3   |
| 102      | Western Civilization II                 | 3   |
| 103      | Honors Western Civilization I           | 3   |
| 104      | Honors Western Civilization II          | 3   |
| 230      | Introduction to International Relations | 3   |
|          | 101<br>102<br>101<br>102<br>103<br>104  | 101American History I102American History II101Western Civilization I102Western Civilization II103Honors Western Civilization I104Honors Western Civilization II |

| CATEGO | RY IV: | CULTURAL DIVERSITY 3 cred                   | its |
|--------|--------|---|-----|
| ANTY   | 220    | Culture and Society                         | 3   |
| ARTH   | 160    | Global Visual Culture                       | 3   |
| COMX   | 212    | Introduction to Intercultural Communication | 3   |
| GPHY   | 121    | Human Geography                             | 3   |
| HTH    | 270    | Global Health Issues                        | 3   |
| LIT    | 230    | World Literature Survey                     | 3   |
| MUSI   | 207    | World Music                                 | 3   |
| NASX   | 105    | Introduction to Native American Studies     | 3   |
| NASX   | 205    | Native Americans in Contemporary Society    | 3   |
| PHL    | 271    | Indian Philosophies and Religions           | 3   |
| PHL    | 272    | Chinese Philosophies and Religions          | 3   |
| REHA   | 201    | Introduction to Diversity                   | 3   |
| RLST   | 170    | The Religious Quest                         | 3   |
| A&SC/  |        |   |     |
| SOCI/W | S 274  | Women, Culture, and Society                 | 3   |
| SPNS   | 150    | The Hispanic Tradition                      | 3   |

## CATEGORY V: ARTS & HUMANITIES

| CATEGO   | RY V:   | ARTS & HUMANITIES                       | 6 credits        |
|----------|---------|---|------------------|
| Students | are req | uired to take one course from each subc | ategory          |
| Subcate  | gory A  | – Fine Arts                             | 3 credits        |
| ARTZ     | 101     | Art Fundamentals                        | 3                |
| ARTZ     | 105     | Visual Language-Drawing                 | 3                |
| ARTZ     | 131     | Ceramics for Non-majors                 | 3                |
| CRWR     | 240     | Intro Creative Writing Workshop         | 3<br>3<br>3<br>3 |
| FILM     | 160     | Introduction to World Cinema            | 3                |
| LIT      | 270     | Film & Literature                       | 3                |
| MART     | 260     | Computer Presentation and Animation     | n 3              |
| MUSI     | 101     | Enjoyment of Music                      | 3                |
| MUSI     | 114     | Band: MSUB Symphonic                    | 1                |
| MUSI     | 131     | Jazz Ensemble I: MSUB                   | 1                |
| MUSI     | 147     | Choral Ensemble: University Chorus      | 1                |
| PHOT     | 154     | Exploring Digital Photography           | 3                |
| THTR     | 101     | Introduction to Theatre                 | 3                |
| THTR     | 120     | Introduction to Acting I                | 3                |
| Subcate  | gory B  | - Humanities                            | 3 credits        |
| ARTH     | 150     | Introduction to Art History             | 3                |
| HONR     | 111     | Perspectives and Understanding          | 3                |
| LIT      | 110     | Introduction to Literature              | 3                |
| LIT      | 240     | The Bible as Literature                 | 3<br>3<br>3      |
| PHL      | 110     | Introduction to Ethics                  | 3                |
| PHL      | 111     | Philosophies of Life                    | 3                |
| Total    |         |   | 31               |

|                  |          | Course                                 | Credits         | Grade      | Semester | Equivalent |
|------------------|----------|--|-----------------|------------|----------|------------|
|                  |          | A minimum grade of C- or better is rea | quired in all m | ajor cours | ework    |            |
| <b>Biology</b> R | lequirem | ents                                   |                 |            |          |            |
| *BIOB            | 160      | Principles of Living Systems           | 3               |            |          |            |
| * BIOB           | 161      | Principles of Living Systems Lab       | 1               |            |          |            |
| BIOB             | 170      | Principles of Biological Diversity     | 3               |            |          |            |
| BIOB             | 171      | Principles of Biological Diversity Lab | 1               |            |          |            |
| BIOB             | 260      | Cellular and Molecular Biology         | 3               |            |          |            |
| BIOB             | 261      | Cellular and Molecular Biology Lab     | 1               |            |          |            |
| BIOB             | 375      | General Genetics                       | 3               |            |          |            |
| BIOB             | 376      | General Genetics Lab                   | 1               |            |          |            |
| BIOE             | 370      | General Ecology                        | 3               |            |          |            |
| BIOE             | 371      | General Ecology Lab                    | 1               |            |          |            |

**Biology Total** 

## **Chemistry Requirements**

| CHMY  | 324 | Organic Chemistry Laboratory II | 1 |  |
|-------|-----|---------------------------------|---|--|
| CHMY  | 323 | Organic Chemistry II            | 3 |  |
| CHMY  | 322 | Organic Chemistry Laboratory I  | 1 |  |
| CHMY  | 321 | Organic Chemistry I             | 3 |  |
| CHMY  | 144 | College Chemistry Laboratory II | 1 |  |
| CHMY  | 143 | College Chemistry II            | 3 |  |
| *CHMY | 142 | College Chemistry Laboratory I  | 1 |  |
| *CHMY | 141 | College Chemistry I             | 3 |  |

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## **Earth Science Requirements**

| ERTH      | 491          | Special Topics Earth Science Total          | 3<br>18-19 |  |
|-----------|--------------|---|------------|--|
| EDTH      | 401          | Second Topics                               | 2          |  |
| ERTH      | 401          | Geological Field Methods                    | 4          |  |
| ERTH      | 303          | Weather and Climate                         | 4          |  |
| Choose on | ne course fi | rom the following:                          |            |  |
| GEO       | 309          | Sedimentation and Stratigraphy              | 3          |  |
| GEO       | 212          | Earth History and Evolution Laboratory      | 1          |  |
| GEO       | 211          | Earth History and Evolution                 | 3          |  |
| GEO       | 205          | Mineralogy                                  | 4          |  |
| *GEO      | 102          | Introduction to Physical Geology Laboratory | 1          |  |
| *GEO      | 101          | Introduction to Physical Geology            | 3          |  |

#### Earth Science Total

## **Physics Requirements**

| *ASTR  | 110 | Introduction to Astronomy         | 3 |  |  |  |
|--------|-----|-----------------------------------|---|--|--|--|
| * ASTR | 111 | Introduction to Astronomy Lab     | 1 |  |  |  |
| PHSX   | 220 | Physics I                         | 3 |  |  |  |
| PHSX   | 221 | Physics I Lab                     | 1 |  |  |  |
| PHSX   | 232 | Physics II and Thermodynamics     | 3 |  |  |  |
| PHSX   | 233 | Physics II and Thermodynamics Lab | 1 |  |  |  |

| PHSX | 343 | Modern Physics | 3  |  |  |
|------|-----|----------------|----|--|--|
| PHSX | 391 | Special Topics | 3  |  |  |
| PHSX | 491 | Special Topics | 3  |  |  |
|      |     | Physics Total  | 21 |  |  |

# **Physics Total**

#### Biological or Physical Science Electives (12 credits) - at least 3 credits must be upper division

| Total | 12 |  |  |
|-------|----|--|--|

#### **Mathematics Requirements**

| *M | 1/1 | Calculus I  |                   | 4 |  |  |
|----|-----|-------------|-------------------|---|--|--|
| М  | 172 | Calculus II |                   | 4 |  |  |
|    |     |             | Mathematics Total | 8 |  |  |

\*May satisfy General Education requirements.

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

| Electives |  |  |  |   |
|-----------|--|--|--|---|
|           |  |  |  |   |
|           |  |  |  |   |
|           |  |  |  |   |
|           |  |  |  |   |
|           |  |  |  |   |
|           |  |  |  |   |
|           |  |  |  |   |
|           |  |  |  | • |

#### BACHELOR OF SCIENCE DEGREE MAJOR IN BROADFIELD SCIENCE

| Categories                        | Credits | Earned | Remaining |
|-----------------------------------|---------|--------|-----------|
| General Education                 | 31      |        |           |
| Biology                           | **16    |        |           |
| Chemistry                         | ***17   |        |           |
| Earth Science                     | 18-19   |        |           |
| Physics                           | 21      |        |           |
| Biological or Physical Science El | ect 12  |        |           |
| Mathematics                       | ***5    |        |           |
| Electives                         | 0-V     |        |           |
| Total                             | 120     |        |           |

\*\*4 credits that also satisfy General Education requirements are not included in the total credits for the major. \*\*\*3 credits that also satisfy General Education requirements are not included in the total credits for the major.

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).