

# MATHEMATICS BA/BS

The Mathematics major is characterized by a balance between theory and application, beginning in the pre-calculus sequence and continuing through to upper division courses. Appropriate technology is integrated at all levels of the curriculum. At the end of the program students are prepared to enter graduate school or business and industry. Students may also complete courses required for secondary teaching certification.

Upon completion of this program, students will be well-prepared to:

- Demonstrate the ability to create, formulate, understand, and communicate mathematical conjectures, arguments and proofs;
- Demonstrate the ability to apply precise and logical reasoning to construct multi-step strategies to solve mathematical problems and effectively communicate those solutions;
- Demonstrate the ability to clearly communicate mathematical ideas verbally and in writing; and
- Demonstrate the ability to use numerical and symbolic mathematical software to aid in problem-solving and investigation as well as understand the limitations of such software.

## General Education Requirements

| Code   | Title   | Credits   |
|--|---|-----------|
| <b>Written Communication</b>                     |   |           |
| Select one of the following:                     |   | 6.00      |
| ENGL-101<br>& ENGL-102                           | WRITING AND RHETORIC I<br>and WRITING AND RHETORIC II |           |
| ENGL-109   | COLLEGE WRITING AND RESEARCH                          |           |
| <b>Oral Communication</b>                        |   |           |
| Select one from the following:                   |   | 3.00      |
| COMM-101   | FUNDAMENTALS OF ORAL COMMUNICATION                    |           |
| COMM-203   | SMALL GROUP COMMUNICATION                             |           |
| COMM-204   | PUBLIC SPEAKING                                       |           |
| <b>Mathematical Ways of Knowing</b>              |   |           |
| Select one of the following:                     |   | 3.00-5.00 |
| MATH-143   | PRECALCULUS I: ALGEBRA                                |           |
| MATH-147   | PRECALCULUS   |           |
| MATH-170   | CALCULUS I  |           |
| <b>Humanistic &amp; Artistic Ways of Knowing</b> |   |           |
| Select one course from two categories:           |   | 6.00-7.00 |
| <b>Literature</b>                                |   |           |
| ENGL-175   | LITERATURE AND IDEAS                                  |           |
| ENGL-257   | WORLD CLASSICS  |           |
| ENGL-258   | INTERNATIONAL LITERATURE                              |           |
| ENGL-260   | NATIVE AMERICAN LITERATURE                            |           |
| ENGL-261   | MYTHOLOGIES   |           |
| <b>Arts</b>                                      |   |           |
| ART-100  | INTRODUCTION TO ART                                   |           |
| HUM-101  | THE ART AND HISTORY OF THE MOTION PICTURE             |           |
| HUM-150  | INTRODUCTION TO THE ARTS                              |           |
| MUS-101  | SURVEY OF MUSIC                                       |           |
| MUS-102  | MUSIC IN AMERICA                                      |           |
| MUS-150  | WORLD MUSIC   |           |
| MUS-151  | HISTORY OF MUSICAL THEATER                            |           |
| THEA-101   | SURVEY OF THE THEATER                                 |           |
| <b>Language</b>                                  |   |           |
| NP-101   | NEZ PERCE LANGUAGE AND CULTURE                        |           |
| NP-102   | NEZ PERCE LANGUAGE AND HISTORY                        |           |
| SPAN-101   | ELEMENTARY SPANISH I                                  |           |
| SPAN-102   | ELEMENTARY SPANISH II                                 |           |

**Scientific Ways of Knowing**

|          |  |      |
|----------|--|------|
| PHYS-211 | PHYSICS FOR SCIENTISTS AND ENGINEERS I | 5.00 |
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|                              |  |           |
|------------------------------|--|-----------|
| Select one of the following: |  | 3.00-4.00 |
|------------------------------|--|-----------|

|             |   |  |
|-------------|---|--|
| BIOF-100    | INTRODUCTION TO BIOINFORMATICS                |  |
| BIOL-100    | CONCEPTS OF BIOLOGY                           |  |
| BIOL-120    | PLANTS AND PEOPLE                             |  |
| BIOL-123    | BIOLOGY IN FILM                               |  |
| BIOL-175    | HUMAN BIOLOGY                                 |  |
| BIOL-227    | HUMAN ANATOMY AND PHYSIOLOGY I                |  |
| CHEM-100    | CONCEPTS OF CHEMISTRY                         |  |
| CHEM-105    | GENERAL, ORGANIC AND BIOCHEMISTRY             |  |
| CHEM-111    | PRINCIPLES OF CHEMISTRY I                     |  |
| CS-108      | INTRODUCTION TO COMPUTER SCIENCE              |  |
| ENGR-108    | SEMICONDUCTORS, SCIENCE, AND SOCIETY          |  |
| FSCI-101    | INTRODUCTION TO FORENSIC SCIENCE              |  |
| GEOL-101    | PHYSICAL GEOLOGY                              |  |
| GEOL-120    | INTRODUCTION TO EARTH SYSTEMS                 |  |
| GIS-271     | GEOGRAPHIC INFORMATION SYSTEMS                |  |
| ID-160      | WATER AND ENERGY                              |  |
| ID-240      | INTEGRATED SCIENCE II                         |  |
| NS-140      | INTEGRATED SCIENCE I                          |  |
| NS-150      | INTRODUCTION TO NATURAL SCIENCES <sup>1</sup> |  |
| NS-174      | NATURAL SCIENCE FOR ELEMENTARY EDUCATOR       |  |
| PHYS-111    | GENERAL PHYSICS I                             |  |
| or PHYS-112 | GENERAL PHYSICS II                            |  |
| PHYS-171    | PHYS SCIENCES FOR ELEMENTARY EDUCATORS        |  |
| PHYS-205    | DESCRIPTIVE ASTRONOMY                         |  |

**Social & Behavioral Ways of Knowing**

|   |  |      |
|---|--|------|
| Select one course from two disciplines: |  | 6.00 |
|---|--|------|

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|----------|---|--|
| ANTH-102 | CULTURAL ANTHROPOLOGY                   |  |
| ANTH-120 | WORLD PREHISTORY                        |  |
| ANTH-170 | INTRODUCTION TO NATIVE AMERICAN STUDIES |  |
| ECON-201 | PRINCIPLES OF MACROECONOMICS            |  |
| ECON-202 | PRINCIPLES OF MICROECONOMICS            |  |
| GEOG-102 | INTRODUCTION TO GEOGRAPHY               |  |
| HIST-101 | WORLD HISTORY I                         |  |
| HIST-102 | WORLD HISTORY II                        |  |
| HIST-111 | UNITED STATES HISTORY I                 |  |
| HIST-112 | UNITED STATES HISTORY II                |  |
| HRPT-184 | DIVERSITY IN ORGANIZATIONS              |  |
| HRPT-185 | HUMAN RELATIONS IN ORGANIZATIONS        |  |
| POLS-101 | AMERICAN NATIONAL GOVERNMENT            |  |
| POLS-237 | INTERNATIONAL POLITICS                  |  |
| POLS-285 | COMPARATIVE GOVERNMENT                  |  |
| PSYC-101 | INTRODUCTION TO GENERAL PSYCHOLOGY      |  |
| PSYC-205 | LIFESPAN DEVELOPMENTAL PSYCHOLOGY       |  |
| SOC-101  | INTRODUCTION TO SOCIOLOGY               |  |
| SOC-102  | SOCIAL PROBLEMS                         |  |
| SS-184   | DIVERSITY IN ORGANIZATIONS              |  |
| SS-185   | HUMAN RELATIONS IN ORGANIZATIONS        |  |

**Global Perspectives**

|                              |  |           |
|------------------------------|--|-----------|
| Select one of the following: |  | 3.00-4.00 |
|------------------------------|--|-----------|

|          |   |
|----------|---|
| ANTH-102 | CULTURAL ANTHROPOLOGY                   |
| ANTH-120 | WORLD PREHISTORY                        |
| ANTH-170 | INTRODUCTION TO NATIVE AMERICAN STUDIES |
| ANTH-360 | RACE AND ETHNICITY                      |
| COMM-345 | INTERCULTURAL COMMUNICATION             |
| ENGL-258 | INTERNATIONAL LITERATURE                |
| ENGL-474 | NATIVE AMERICAN WRITTEN LITERATURE      |
| GEOG-102 | INTRODUCTION TO GEOGRAPHY               |
| HIST-101 | WORLD HISTORY I                         |
| HIST-102 | WORLD HISTORY II                        |
| HIST-111 | UNITED STATES HISTORY I                 |
| HIST-112 | UNITED STATES HISTORY II                |
| HRPT-184 | DIVERSITY IN ORGANIZATIONS              |
| ID-300C  | ETHICS AND IDENTITY                     |
| KIN-220  | SOCIAL-CULTURAL ASPECTS OF SPORTS       |
| NP-101   | NEZ PERCE LANGUAGE AND CULTURE          |
| NP-102   | NEZ PERCE LANGUAGE AND HISTORY          |
| POLS-285 | COMPARATIVE GOVERNMENT                  |
| SOC-101  | INTRODUCTION TO SOCIOLOGY               |
| SPAN-101 | ELEMENTARY SPANISH I                    |
| SPAN-102 | ELEMENTARY SPANISH II                   |
| SPAN-201 | INTERMEDIATE SPANISH I                  |
| SPAN-202 | INTERMEDIATE SPANISH II                 |
| SS-184   | DIVERSITY IN ORGANIZATIONS              |

**Integrative Seminar: Ethics & Values**

Select one of the following: 3.00

ID 300A - 300Z (see course descriptions for options)

ID-301A HELLS CANYON INSTITUTE

**Foreign/Heritage Language**

Select 16 credits of language if selecting Bachelor of Arts Degree 16.00

**Total Credits****38.00-43.00**

## Program Requirements

| Code  | Title                                      | Credits      |
|---|--|--------------|
| <b>Major Courses</b>  |  |              |
| CS-111  | COMPUTER SCIENCE 1                         | 4.00         |
| MATH-170  | CALCULUS I (Required if not taken as core) |              |
| MATH-175  | CALCULUS II                                | 4.00         |
| MATH-253  | STATISTICAL METHODS FOR THE SCIENCES       | 3.00         |
| MATH-275  | CALCULUS III                               | 4.00         |
| MATH-300  | INTRODUCTION TO MATHEMATICAL REASONING     | 3.00         |
| MATH-320  | PROBABILITY AND STATISTICS                 | 3.00         |
| MATH-340  | LINEAR ALGEBRA                             | 3.00         |
| MATH-460  | ABSTRACT ALGEBRA I                         | 3.00         |
| MATH-480  | REAL ANALYSIS I                            | 3.00         |
| PHYS-212  | PHYSICS FOR SCIENTISTS AND ENGINEERS II    | 5.00         |
| <b>Electives</b>  |  |              |
| Select 9 credits numbered 200 or above  |  | 9.00         |
| Select 4 credits of 300/400 level from the following course prefixes: BIO, BIOF, CHEM, CS, CYB, GIS, MATH, NS, or PHYS. |  | 4.00         |
| Select 34 elective credits  |  | 34.00        |
| <b>Total Credits</b>  |  | <b>82.00</b> |

## Sequential Plan of Study

| Course              | Title                                       | Credits            |
|---------------------|---|--------------------|
| <b>First Year</b>   |   |                    |
| <b>Fall</b>         |   |                    |
| CORE                | Humanistic & Artistic Ways of Knowing       | 3.00               |
| CORE                | MATH-143, MATH-147 or MATH-170              | 3.00-5.00          |
| CORE                | Oral Communication                          | 3.00               |
| CORE                | Social & Behavioral Ways of Knowing         | 3.00               |
| ENGL-101            | WRITING AND RHETORIC I                      | 3.00               |
| <b>Credits</b>      |   | <b>15.00-17.00</b> |
| <b>Spring</b>       |   |                    |
| CORE                | Humanistic & Artistic Ways of Knowing       | 3.00               |
| ENGL-102            | WRITING AND RHETORIC II                     | 3.00               |
| MATH-175            | CALCULUS II                                 | 4.00               |
| Program Requirement | MATH 200/300/400 Level                      | 3.00               |
| Elective            | Elective Credits                            | 2.00               |
| <b>Credits</b>      |   | <b>15.00</b>       |
| <b>Second Year</b>  |   |                    |
| <b>Fall</b>         |   |                    |
| CORE                | Social & Behavioral Ways of Knowing         | 3.00               |
| CS-111              | COMPUTER SCIENCE 1                          | 4.00               |
| MATH-253            | STATISTICAL METHODS FOR THE SCIENCES        | 3.00               |
| PHYS-211            | PHYSICS FOR SCIENTISTS AND ENGINEERS I      | 5.00               |
| <b>Credits</b>      |   | <b>15.00</b>       |
| <b>Spring</b>       |   |                    |
| CORE                | Scientific Ways of Knowing                  | 3.00               |
| CORE                | Global Perspectives                         | 3.00               |
| MATH-275            | CALCULUS III                                | 4.00               |
| PHYS-212            | PHYSICS FOR SCIENTISTS AND ENGINEERS II     | 5.00               |
| <b>Credits</b>      |   | <b>15.00</b>       |
| <b>Third Year</b>   |   |                    |
| <b>Fall</b>         |   |                    |
| CORE                | Integrative Seminar: Ethics & Values        | 3.00               |
| MATH-300            | INTRODUCTION TO MATHEMATICAL REASONING      | 3.00               |
| MATH-340            | LINEAR ALGEBRA                              | 3.00               |
| Program Requirement | MATH 200/300/400 Level                      | 3.00               |
| Elective            | Elective Credits                            | 4.00               |
| <b>Credits</b>      |   | <b>16.00</b>       |
| <b>Spring</b>       |   |                    |
| MATH-320            | PROBABILITY AND STATISTICS                  | 3.00               |
| Program Requirement | MATH 200/300/400 Level                      | 3.00               |
| Elective            | Elective Credits                            | 4.00               |
| Elective            | Elective Credits                            | 4.00               |
| <b>Credits</b>      |   | <b>14.00</b>       |
| <b>Fourth Year</b>  |   |                    |
| <b>Fall</b>         |   |                    |
| MATH-460            | ABSTRACT ALGEBRA I                          | 3.00               |
| Program Requirement | Select MATH or Science course 300/400 Level | 4.00               |
| Elective            | Elective Credits                            | 4.00               |
| Elective            | Elective Credits                            | 4.00               |
| <b>Credits</b>      |   | <b>15.00</b>       |

**Spring**

|                      |                  |                      |
|----------------------|------------------|----------------------|
| MATH-480             | REAL ANALYSIS I  | 3.00                 |
| Elective             | Elective Credits | 4.00                 |
| Elective             | Elective Credits | 4.00                 |
| Elective             | Elective Credits | 4.00                 |
| <b>Credits</b>       |                  | <b>15.00</b>         |
| <b>Total Credits</b> |                  | <b>120.00-122.00</b> |

Graduates with a BA/BS in Mathematics go on to obtain careers in a variety of fields:

- Industry
- Market Research
- Education
- Government
- Banking
- Actuarial Science
- Data Science
- Business, Management, Consulting
- Graduate Studies