

# B.S. IN MATHEMATICS WITH A CONCENTRATION IN STATISTICS (MA.STAT.BS)

| Code  | Title                                       | Credits    |
|---|---|------------|
| <b>Major Requirements/Mathematics (49 credits)</b>                                      |   |            |
| <i>(Satisfies Mathematics in General Education)</i>                                     |   |            |
| MA-120  | Introduction to Mathematical Reasoning      | 4          |
| MA-125  | Calculus with Analytic Geometry I           | 4          |
| MA-126  | Calculus with Analytic Geometry II          | 4          |
| MA-311  | Differential Equations                      | 3          |
| MA-221  | Linear Algebra                              | 3          |
| MA-225  | Calculus with Analytic Geometry III         | 4          |
| Select one of the following:  |   | 3          |
| <i>(MA-314 satisfies Reasoned Oral Discourse (RD) in General Education<sup>1</sup>)</i> |   |            |
| MA-314  | Number Theory                               |            |
| MA-317  | Geometry                                    |            |
| MA-318  | Combinatorics and Graph Theory              |            |
| MA-220  | Probability and Statistics I                | 3          |
| MA-320  | Probability and Statistics II               | 3          |
| MA-350  | Computation and Statistics                  | 3          |
| MA-415  | Real Analysis                               | 3          |
| MA-419  | Introduction to Mathematical Modeling       | 3          |
| MA-421  | Design of Experiments and ANOVA             | 3          |
| MA-440  | Regression and Time Series Analysis         | 3          |
| MA-460  | Multivariate and Categorical Statistics     | 3          |
| <b>MA Interdisciplinary Requirements (8-10 credits)</b>                                 |   |            |
| <i>(Satisfies Natural Sciences in General Education)</i>                                |   |            |
| Select one of the following groups:   |   | 8-10       |
| Group A (8 credits)   |   |            |
| CE-111  | General Chemistry I                         |            |
| CE-111L   | General Chemistry Laboratory I              |            |
| CE-112  | General Chemistry II                        |            |
| CE-112L   | General Chemistry Laboratory II             |            |
| Group B (10 credits)  |   |            |
| PH-211  | General Physics with Calculus I             |            |
| PH-211L   | General Physics with Calculus Laboratory I  |            |
| PH-212  | General Physics with Calculus II            |            |
| PH-212L   | General Physics with Calculus Laboratory II |            |
| Group C (8 credits)   |   |            |
| BY-109  | Introduction to Biodiversity and Evolution  |            |
| BY-110  | Introduction to Cell and Molecular Biology  |            |
| <b>Free Electives (25-27 credits)<sup>2</sup></b>                                       |   |            |
| Complete 25-27 of free elective credits. <sup>2</sup>                                   |   | 25-27      |
| <b>General Education Requirements (36 credits)<sup>3</sup></b>                          |   |            |
| Complete 36 credits as outlined on the General Education table. <sup>3</sup>            |   | 36         |
| <b>Total Credits</b>  |   | <b>120</b> |

1

If course selection satisfies a General Education requirement, additional free electives may be permitted. See advisor.

2

Please consult with your advisor regarding the required number of free electives that must be completed.

3

The General Education curriculum requires the completion of 45 credits. However, students may be able to share credits from within their major or interdisciplinary requirements. Please consult with your advisor to determine which General Education (<http://catalog.monmouth.edu/undergraduate-catalog/academic-programs-support-services-regulations/general-education-requirements/>) courses must be completed.

## Notes

- 54 credits must be completed at the 200 level or higher.

## Sequence Chart

| First Year  |         |   |           |
|---|---------|---|-----------|
| Fall  | Credits | Spring  | Credits   |
| EN-101 College Composition I                                  |         | 3 EN-102 College Composition II   | 3         |
| MA-125 Calculus with Analytic Geometry I (Gen*Ed Mathematics) | 4       | MA-120 Introduction to Mathematical Reasoning                           | 4         |
| Gen*Ed Historical Perspectives (HS.SV)                        | 3       | MA-126 Calculus with Analytic Geometry II                               | 4         |
| Gen*Ed Aesthetics (AT) AR,DA,MU,TH                            | 3       | Gen*Ed Social Science Survey (SS.SV)                                    | 3         |
| Gen*Ed Cultural Diversity (CD) or Global Understanding (GU)   | 3       | Free Electives  | 3         |
| <b>Semester Credits</b>                                       |         | <b>16 Semester Credits</b>  | <b>17</b> |
| Second Year   |         |   |           |
| Fall  | Credits | Spring  | Credits   |
| MA-220 Probability and Statistics I                           | 3       | MA-320 Probability and Statistics II                                    | 3         |
| MA-221 Linear Algebra   | 3       | CE-112 & CE-112L or PH-212 & PH-212L or BY-110                          | 5         |
| Gen*Ed Technological Literacy (TL)                            | 3       | Gen*Ed Historical Perspectives (HS.SV) or Social Science Survey (SS.SV) | 3         |
| CE-111 & CE-111L or PH-211 & PH-211L or BY-109                | 5       | MA-225 Calculus with Analytic Geometry III                              | 4         |
| <b>Semester Credits</b>                                       |         | <b>14 Semester Credits</b>  | <b>15</b> |
| Third Year  |         |   |           |
| Fall  | Credits | Spring  | Credits   |
| MA-311 Differential Equations                                 | 3       | MA-440 Regression and Time Series Analysis                              | 3         |
| MA-421 Design of Experiments and ANOVA                        | 3       | Free Electives  | 6         |
| EN-2xx Gen*Ed Literature (LIT)                                | 3       | MA-314, MA-317, or MA-318 (MA-314 is Reasoned Oral Discourse (RD))      | 3         |
| Gen*Ed Reasoned Oral Discourse (RD)                           | 3       | FO-xx Gen*Ed World Language   | 3         |
| Free Electives  | 3       |   |           |
| <b>Semester Credits</b>                                       |         | <b>15 Semester Credits</b>  | <b>15</b> |
| Fourth Year   |         |   |           |
| Fall  | Credits | Spring  | Credits   |
| MA-350 Computation and Statistics                             | 3       | MA-419 Introduction to Mathematical Modeling                            | 3         |
| MA-415 Real Analysis  | 3       | MA-460 Multivariate and Categorical Statistics                          | 3         |

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|                          |   |           |
|--------------------------|---|-----------|
| Free Electives           | 7 Free Electives                            | 6         |
|                          | Gen*Ed Interdisciplinary Perspectives (ISP) | 3         |
| <b>Semester Credits</b>  | <b>13 Semester Credits</b>                  | <b>15</b> |
| <b>Total Credits 120</b> |   |           |