

## MAJOR SEQUENCE AND DEGREE REQUIREMENTS

Major: **BS MATHEMATICS**

Option: (Stats, Actuarial, or Without Option)

Major Field Requirements: **45.0 credits**

Other Requirements: **18.0 - 27.0 credits**

When applicable, up to six of the **REQUIRED RELATED** courses may be credited toward the Liberal Arts Core subject to normal distribution rules.

| Course No.  | Short Title             | C.H.  | Grade | Q.P.  | Course No.   | Short Title            | C.H.  | Grade | Q.P.  |
|---|-------------------------|-------|-------|-------|--|------------------------|-------|-------|-------|
| <b>REQUIRED MATHEMATICS COURSES (34- 35.0 credits)</b>  |                         |       |       |       | <b>MATH Electives - Statistics Option (10.0 credits)</b>   |                        |       |       |       |
| MATH 161  | Calculus I*             | 4.0   | _____ | _____ | MATH 435   | Math Statistics II     | 3.0   | _____ | _____ |
| MATH 211  | Calculus II             | 4.0   | _____ | _____ | MATH 535   | Statistical Methods I  | 3.0   | _____ | _____ |
| MATH 310  | Intro Math Proof        | 3.0   | _____ | _____ | MATH 536   | Statistical Methods II | 3.0   | _____ | _____ |
| MATH 311  | Calculus III            | 4.0   | _____ | _____ | MATH 537   | Stat Prob Solv. Sem    | 1.0   | _____ | _____ |
| MATH 322  | Linear Algebra I        | 4.0   | _____ | _____ | Recommended Courses: MATH 370, 375, 422  |                        |       |       |       |
| MATH 335  | Mathematic Stats I      | 3.0   | _____ | _____ | <b>MATH Electives - Actuarial Science Option (10.0 credits)</b>  |                        |       |       |       |
| MATH 345  | Abstract Algebra I      | 3.0   | _____ | _____ | MATH 319   | Calc & Act Sci Sem     | 1.0   | _____ | _____ |
| MATH 365  | Differential Equation   | 3.0   | _____ | _____ | MATH 435   | Math Statistics II     | 3.0   | _____ | _____ |
| MATH 375  | Numerical Analysis      | 3.0   | _____ | _____ | MATH 535   | Statistical Methods I  | 3.0   | _____ | _____ |
| MATH 464  | Real Analysis I         | 3.0   | _____ | _____ | Choose one additional MATH course from the No Declared Option electives list.  |                        |       |       |       |
| *With permission, MATH 163 Honors Calculus I may be taken in place of MATH 161.   |                         |       |       |       | MATH _____   |                        |       |       |       |
| <b>REQUIRED OPTION COURSES (9.0 -10.0 credits)</b>  |                         |       |       |       | And for the Actuarial Science option:<br>Required Related: 6 credits   |                        |       |       |       |
| Choose one of the following options: No Declared, Statistics, or Actuarial Science  |                         |       |       |       | ECON 101 Princ. of Macroecon. 3.0  |                        |       |       |       |
| <b>MATH Electives- No Declared Option (9.0 credits)</b>   |                         |       |       |       | ECON 102 Princ. of Microecon. 3.0  |                        |       |       |       |
| Students must choose one of MATH 422, MATH 435, MATH 445, MATH 465 or MATH 467. Another may be substituted with the approval of the department. |                         |       |       |       | Recommended Courses: MATH 422, 536, BUAD 161, 162  |                        |       |       |       |
| <b>REQUIRED RELATED COURSES (18.0-27.0 credits)</b>   |                         |       |       |       | <b>REQUIRED RELATED COURSES (18.0-27.0 credits)</b>  |                        |       |       |       |
| MATH 353  | Survey of Geometry      | 3.0   | _____ | _____ | CSCI 161   | Intro Computing I      | 4.0   | _____ | _____ |
| MATH 355  | Transfrmtnl Geometry    | 3.0   | _____ | _____ | PHYS 231   | General Physics I      | 5.0   | _____ | _____ |
| MATH 370  | Operations Research     | 3.0   | _____ | _____ | <b>ONE of the following options:</b>   |                        |       |       |       |
| MATH 393  | Number Theory           | 3.0   | _____ | _____ | a) Three courses (at least 3.0 c.h. each) chosen from the departments of Biology, Chemistry, Computer Science, Earth Science, and Physics, which count toward the major in that department, and to include at least one of: BIOL 375, CSCI 162, ESCI 340, ESCI 341, ESCI 342, or PHYS 232. |                        |       |       |       |
| MATH 395  | Intro Combinatorics     | 3.0   | _____ | _____ | <b>or</b>  |                        |       |       |       |
| MATH 422  | Linear Algebra II       | 3.0   | _____ | _____ | b) Four courses (at least 3.0 credit hours each) chosen from a single department, which count toward the major in that department.   |                        |       |       |       |
| MATH 435  | Math Statistics II      | 3.0   | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| MATH 445  | Abstract Algebra II     | 3.0   | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| MATH 457  | Elem Diff Geometry      | 3.0   | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| MATH 465  | Real Analysis II        | 3.0   | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| MATH 467  | Partial Diff. Equations | 3.0   | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| MATH 471  | Math Modeling           |       | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| MATH 472  | Financial Math          | 3.0   | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| MATH 483  | Point - Set Topology    | 3.0   | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| MATH 4__  | Topics in _____         | _____ | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| MATH 4__  | Topics in _____         | _____ | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| MATH 535  | Statistical Methods I   | 3.0   | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| MATH 536  | Statistical Methods II  | 3.0   | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| MATH 566  | Complex Variables       | 3.0   | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| MATH 592  | Graph Theory            | 3.0   | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| MATH _____  | _____                   | _____ | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| MATH _____  | _____                   | _____ | _____ | _____ | _____  | _____                  | _____ | _____ | _____ |
| Selected 500-level MATH courses may be substituted with departmental permission.  |                         |       |       |       |  |                        |       |       |       |