

# B.S. in MATHEMATICS CHECK SHEET

## REQUIREMENTS

The core courses are designed to give students breadth of mathematical experience, while the concentrations allow students to go more in depth in an area of interest. *All students must complete at least 120 credits to graduate.*

### For a B.S. Degree in Mathematics

A student must take all the core courses. Beyond the core courses, a student must either

- complete a concentration, or
- take at least 5 courses at the 300 level or above of which at least 2 are at the 400 level, and complete either a minor or 3 allied electives.

## CORE COURSES

### Mathematics

- |   |  |
|---|--|
| <input type="checkbox"/> MAT 225 Discrete Mathematics | <input type="checkbox"/> MAT 313 Statistics I  |
| <input type="checkbox"/> MAT 211 Calculus I           | <input type="checkbox"/> MAT 318 Elementary Linear Algebra   |
| <input type="checkbox"/> MAT 212 Calculus II          | <input type="checkbox"/> MAT 320 Introduction to Abstract Algebra  |
| <input type="checkbox"/> MAT 213 Calculus III         | <input type="checkbox"/> MAT 441 Real Analysis <b>or</b> <input type="checkbox"/> MAT 430 Complex Analysis |

### Computer Science

- ☐ CSC 110 Computer Science I with CSC 106/107 Lab **or** ☐ CSC 180 Microcomputer Basic

## CONCENTRATIONS

### Applied Mathematics Concentration

- ☐ MAT 322 Differential Equations  
☐ MAT 326 Mathematical Modeling  
☐ One of  
     MAT 410 Numerical Analysis  
     MAT 413 Statistics II  
     MAT 421 Number Theory and Cryptography  
     MAT 422 Partial Differential Equations  
     MAT 456 Deterministic Methods of Operations Research  
     MAT 476 Probability  
☐ MAT 4xx elective  
☐ MAT 4xx elective  
 Either  
     complete a minor: \_\_\_\_\_  
 or  
     *Two Allied Electives* and an *Interdisciplinary Sequence\**

*Students with an interest in computer science, physics, biology, chemistry, or other sciences are encouraged to complete the applied mathematics concentration.*

### Statistics Concentration

- ☐ MAT 413 Statistics II  
☐ MAT 476 Probability  
☐ MAT 486 Mathematical Statistics  
☐ MAT 3xx or 4xx elective  
☐ MAT 3xx or 4xx elective  
 Either  
     complete a minor: \_\_\_\_\_  
 or  
     *Two Allied Electives* and an *Interdisciplinary Sequence\**

*Students with an interest in economics, finance, accounting, actuarial science, or the social sciences are encouraged to complete the statistics concentration.*

### Secondary Education Certification

- ☐ MAT 326 Mathematical Modeling  
☐ MAT 333 Geometry  
☐ MAT 400 History of Mathematics  
☐ MAT 4xx elective  
☐ EEC 273 Introduction to Exceptionality  
☐ TCH 207 Organizational and Psychological Foundations in Secondary Education  
☐ EEC 423 Effective Instructional Strategies  
☐ RDG 413 Teaching Reading to English Language Learners  
☐ EDU 371 Technology in the Mathematics Classroom  
☐ EDU 434 Teaching of Mathematics in the Secondary Schools I  
☐ EDU 435 Teaching of Mathematics in the Secondary School II  
☐ EEC 483 Assessing Students for Curricular Decision Making  
☐ EDU 495 Student Teaching and Professional Practicum (12 cr).

*Students who plan on teaching mathematics at the middle school or high school level should complete the secondary education concentration.*

### B.S. in Mathematics without Concentration

- ☐ MAT 3xx or 4xx \_\_\_\_\_  
☐ MAT 3xx or 4xx \_\_\_\_\_  
☐ MAT 3xx or 4xx \_\_\_\_\_  
☐ MAT 4xx \_\_\_\_\_  
☐ MAT 4xx \_\_\_\_\_  
 Either  
     complete a minor: \_\_\_\_\_  
 or  
     *Three Allied Electives\** \_\_\_\_\_

*The "no concentration" option is appropriate for students who desire both depth and breadth across the mathematics curriculum.*