

**College of Science and Mathematics**

**Department: Mathematics and Statistics**

**Undergraduate Program: B. S. Mathematics – Applied Math Concentration**

Current	Hours	New	Hours
<p><b>I. Required Courses</b>  MTH 229 Calculus I  MTH 230 Calculus II  MTH 231 Calculus III  MTH 232 Calculus IV  MTH 233 Differential Equations  MTH 255 Linear Algebra  MTH 280 Intro to Math. Proof (WI)  MTH 355 Advanced Linear Algebra  MTH 431 Real Variables I  MTH 432 Real Variables II  MTH 492 Math Seminar (WI)  <u>Choose at least four courses from the following:</u>  MTH 306 Mathematical Modeling  MTH 316 Numerical Methods I  MTH 317 Numerical Methods II  MTH 332 Complex Variables  MTH 333 Partial Differential Equations  MTH 360 Applied Statistics I  MTH 361 Applied Statistics II  <u>Choose at least two from the following:</u>  MTH 407 Optimization Techniques  MTH 419 Cryptography &amp; Data Security  MTH 456 Coding Theory  MTH 458 Applied Graph Theory  MTH 480 Appl Math:Geometric Mthds  MTH 481 Appl Math:Geometric Mthds  MTH 482Appl Math:Integral Methods  <u>Two additional 400-level courses from the following courses or from above:</u>  MTH 433 Real Variables III  MTH 451 Intro to Modern Algebra I  MTH 452 Intro to Modern Algebra II  MTH 457 Combinatorics  STT 461 Theory of Statistics I  STT 462 Theory of Statistics II</p>	67-69 Hrs	<p><b>I. Required Courses</b>  MTH 229 Calculus I  MTH 230 Calculus II  MTH 231 Calculus III  MTH 232 Calculus IV  MTH 233 Differential Equations  MTH 255 Linear Algebra  MTH 280 Intro to Math. Proof (WI)  MTH 355 Advanced Linear Algebra  MTH 431 Real Variables I  MTH 432 Real Variables II  MTH 492 Math Seminar (WI)  <u>Choose at least four courses from the following:</u>  MTH 306 Mathematical Modeling  MTH 314 Introduction to Mathematical Software  MTH 316 Numerical Methods I  MTH 317 Numerical Methods II  MTH 332 Complex Variables  MTH 333 Partial Differential Equations  MTH 360 Applied Statistics I  MTH 361 Applied Statistics II  <u>Choose at least two from the following:</u>  MTH 407 Optimization Techniques  MTH 415 Introduction to Scientific Computation  MTH 419 Cryptography &amp; Data Security  MTH 456 Coding Theory  MTH 458 Applied Graph Theory  MTH 480 Appl Math:Geometric Mthds  MTH 481 Appl Math:Geometric Mthds  MTH 482Appl Math:Integral Methods  <u>Two additional 400-level courses from the following courses or from above:</u>  MTH 433 Real Variables III  MTH 451 Intro to Modern Algebra I  MTH 452 Intro to Modern Algebra II  MTH 457 Combinatorics  STT 461 Theory of Statistics I  STT 462 Theory of Statistics II</p>	67-69 Hrs.
<p><b>II. Related Course Requirements</b>  CS 141 Programming I  CS 142 Programming II; or  CS 240 Computer Science I  <u>Choose one sequence:</u>  PHY 371 Analytical Mechanics I &amp;  PHY 372 Analytical Mechanics I; OR  ME 212 Statics &amp;  ME 213 Dynamics  At least 12 hours of advanced technical electives,  approved by advisor.</p>	26-28 Hrs.	<p><b>II. Related Course Requirements</b>  CS 141 Programming I  CS 142 Programming II; or  CS 240 Computer Science  <u>Choose one sequence:</u>  PHY 371 Analytical Mechanics I &amp;  PHY 372 Analytical Mechanics I; OR  ME 212 Statics &amp;  ME 213 Dynamics  At least 12 hours of advanced technical electives,  approved by advisor.</p>	26-28 Hrs