

# B.S. IN MATHEMATICS - STATISTICS CONCENTRATION

## Curriculum

Code	Title	Credits
<b>GENERAL EDUCATION REQUIREMENTS</b> ( <a href="https://catalog.wcupa.edu/undergraduate/general-education-requirements/">https://catalog.wcupa.edu/undergraduate/general-education-requirements/</a> )		
<b>Academic Foundations</b>		
	First Year Experience requirement	4
	English Composition requirement	6-7
	Mathematics requirement	3-4
	Interdisciplinary requirement	3
	Diverse Communities requirement	3
	Ethics requirement	3
<b>Distributed Disciplinary Foundations</b>		
	Science requirement	6-8
CSC 141	Computer Science I	
	Behavioral & Social Science requirement	6
	Humanities requirement	6
	Arts requirement	3
<b>ADDITIONAL BACCALAUREATE REQUIREMENTS</b> ( <a href="https://catalog.wcupa.edu/undergraduate/general-education-requirements/">https://catalog.wcupa.edu/undergraduate/general-education-requirements/</a> )		
<b>University Requirements</b>		
	Writing Emphasis requirement	9
ENG 368	Business and Organizational Writing	
or ENG 371	Technical Writing	
or ENG 375	Client-Based Writing	
	Speaking Emphasis requirement	9
<b>Degree Requirements</b>		
	Capstone requirement	1-15
<b>MAJOR REQUIREMENTS</b>		
<b>Major Courses</b>		
MAT 125	Introduction to Statistics and Probability	
MAT 161	Calculus I	4
MAT 162	Calculus II	4
MAT 200	The Nature of Mathematics	3
MAT 261	Calculus III	4
MAT 311	Linear Algebra	3
MAT 325	Numerical Analysis I	3
MAT 421	Mathematical Statistics I	3
MAT 422	Mathematical Statistics II	3
MAT 423	Applied Probability	3
STA 200	Introduction to Statistics II	3
STA 311	Intro Statistical Computing and Data Management	3
STA 319	Applied Statistics	3
STA 320	Experimental Design	3
STA 321	Topics in Advanced Statistics	3
STA 419	Basics of Statistical Learning	
<b>Related/Cognate Requirements</b>		
CSC 141	Computer Science I <sup>1</sup>	3
	Select one of the following:	3
ENG 368	Business and Organizational Writing	
ENG 375	Client-Based Writing	

ENG 371	Technical Writing	
<b>Free Electives</b>		
	Select five electives from any subject area.	15
<b>Statistics Electives or Internship</b>		
	Two additional MAT/STA courses at the 200 level or higher, one of which may be an internship. <sup>2</sup>	6
<b>Capstone Requirement</b>		
STA 490	Capstone Course in Statistics <sup>3</sup>	3
<b>Total Minimum Required Credits</b>		<b>120</b>

<sup>1</sup> Indicates course satisfies a general education requirement.

<sup>2</sup> Students in the Accelerated B.S. in Mathematics - Statistics Concentration to M.S. in Applied Statistics Program should refer to the table below.

<sup>3</sup> This course fulfills the Capstone requirement.

## Accelerated B.S. in Mathematics - Statistics Concentration to M.S. in Applied Statistics Program

Code	Title	Credits
<b>Free Electives</b>		
	STA 505 and STA 511 may be taken to replace two free electives.	6
<b>Internship and Electives</b>		
	STA 506 and STA 512 may be taken to replace the Internship and Math/Stat Elective <sup>1</sup>	7

<sup>1</sup> Because STA 512 is a 4-credit course, 6 credits of internship and electives are replaced by 7 credits of graduate coursework.

All math major courses must be passed with a C or better.

## Sample Course Plan

To track their individual degree progress, students are advised to access their Degree Audit via RamPortal regularly. For more information, visit the Degree Audit FAQ webpage (<https://www.wcupa.edu/academicEnterpriseSystems/student-system-modernization/degree-audit-faqs.aspx>).

The following is a sample suggested course sequence for this program; course offerings and availability are not guaranteed. Students should consult their academic advisor with any questions.

Course	Title	Credits
<b>Year One</b>		
<b>Fall</b>		
MAT 125	Introduction to Statistics and Probability	3
MAT 161	Calculus I	4
CSC 141	Computer Science I	3
WRT 120	Effective Writing I	3
or WRT 123	or Effective Writing with Supplemental Writing Workshop	
FYE 100X	First Year Experience	4
<b>Credits</b>		<b>17</b>
<b>Spring</b>		
MAT 162	Calculus II	4
MAT 200	The Nature of Mathematics	3
	Humanities Gen Ed	3
	Behavioral/Social Science Gen Ed	3
	Free Elective (STA 200 recommended)	3
<b>Credits</b>		<b>16</b>

<b>Year Two</b>		
<b>Fall</b>		
MAT 261	Calculus III	4
MAT 311	Linear Algebra	3
WRT 2XX	200-Level WRT Course	3
	Supplemental Elective I	3
	Free Elective	3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
MAT 343	Differential Equations	3
STA 311	Intro Statistical Computing and Data Management	3
STA 319	Applied Statistics	3
	Supplemental Elective II	3
	Arts Gen Ed	3
<b>Credits</b>		<b>15</b>
<b>Year Three</b>		
<b>Fall</b>		
MAT 421	Mathematical Statistics I	3
STA 320	Experimental Design	3
STA 419	Basics of Statistical Learning	3
	Supplemental Elective III	3
	IW Course	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
MAT 422	Mathematical Statistics II	3
STA 321	Topics in Advanced Statistics	3
ENG 368	Business and Organizational Writing (W)	3
	Supplemental Elective IV	3
	Behavioral/Social Science Gen Ed	3
<b>Credits</b>		<b>15</b>
<b>Year Four</b>		
<b>Fall</b>		
STA 490	Capstone Course in Statistics	3
	Supplemental Elective V	3
	Supplemental Elective VI	3
	JW Course	3
	Humanities Gen Ed	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
	MAT/STA Elective <sup>1</sup>	3
	MAT/STA Elective <sup>1</sup>	3
	Science Gen Ed Elective	3
	Free Elective	3
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>121</b>

<sup>1</sup> Must be approved by advisor and may be an internship.