

# B.S. IN MATHEMATICS - STATISTICS CONCENTRATION

*College of the Sciences and Mathematics*

## Curriculum

Code	Title	Credits
<b>GENERAL EDUCATION REQUIREMENTS</b> ( <a href="http://catalog.wcupa.edu/undergraduate/general-education-requirements/">http://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
Behavioral & Social Science requirement		6
Humanities requirement		6
Arts requirement		3
<b>ADDITIONAL BACCALAUREATE REQUIREMENTS</b> ( <a href="http://catalog.wcupa.edu/undergraduate/general-education-requirements/">http://catalog.wcupa.edu/undergraduate/general-education-requirements/</a> )		
<b>University Requirements</b>		
Writing Emphasis requirement		9
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	3
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
STA 319	Applied Statistics	3
MAT 343	Differential Equations	3
MAT 421	Mathematical Statistics I	3
MAT 422	Mathematical Statistics II	3
STA 311	Intro Statistical Computing and Data Management	3
STA 320	Experimental Design	3
STA 321	Topics in Advanced Statistics	3
STA 419	Basics of Statistical Learning	3
<b>Related/Cognate Requirements</b>		
Select one of the following:		3
ENG 368	Business and Organizational Writing	
ENG 375	Strategies for Writing in the Workplace	
ENG 371	Technical Writing	
<b>Supplemental Electives</b>		
Select six electives from a subject area in which students would like to apply statistics.		18
<b>Statistics Electives or Internship</b>		

Two additional MAT/STA courses at the 200 level or higher, one of which may be an internship. 6

### Capstone Requirement

STA 490 Capstone Course in Statistics<sup>3</sup> 3

**Total Minimum Required Credits** 120

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

<sup>2</sup> Because STA 512 is a 4 credit course 6 credits of Internship and Electives are replaced by 7 credits of graduate coursework.

<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>Supplemental Electives</b>		
STA 505 and STA 511 may be taken to replace two supplemental electives.		6
<b>Internship and Electives</b>		
STA 506 and STA 512 may be taken to replace the Internship and Free Math/Stat Elective <sup>2</sup>		7

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 Progress Report (DPR) via myWCU regularly. For more information, visit [wcupa.edu/DegreeProgressReport](http://wcupa.edu/DegreeProgressReport) (<http://wcupa.edu/degreeprogressreport/>).

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
WRT 120	Effective Writing I	3
or	or Effective Writing with Supplemental	
WRT 123	Writing Workshop	
FYE 100X	First Year Experience	4
Humanities Gen Ed		3
<b>Credits</b>		<b>17</b>
<b>Spring</b>		
MAT 162	Calculus II	4
MAT 200	The Nature of Mathematics	3
Science 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.