

# STATISTICS-BA OR BS WITH ACTUARIAL SCIENCES EMPHASIS

THIS IS A **GENERAL** CURRICULUM GUIDE AND IS NOT APPLICABLE TO EVERY STUDENT. IT IS IMPORTANT TO MEET WITH YOUR ADVISOR.

THIS GUIDE IS FOR STUDENTS WHO ARE STARTING IN MTH 110

<b>Year One</b>			
MTH 110 Algebra Gen Ed <sup>GE Historical Analysis</sup> or <sup>1</sup> WRT 120 (self-placement) Gen Ed <sup>GE Social/Behavioral</sup> or Language (if BA) Gen Ed <sup>GE Physical Science</sup> Gen Ed <sup>GE Art</sup>	4 3/4 3/4 3 3	MTH 124 Precalculus: Functions and Models <sup>GE Math</sup> Prerequisite: MTH 110 or proficiency through math placement <b>SEE NOTE BELOW REGARDING OPTIONS FOR THIS COURSE</b> STA 215 Introductory Applied Statistics Prerequisite: MTH 110 or equivalent Gen Ed <sup>GE Life Science</sup> or Language (if BA) <sup>1</sup> WRT 130 or 150 <sup>GE Writing</sup> <sup>2</sup> Elective (if necessary)	5   3 3/4 3/4 1
<i>Total</i>	<i>13/16*</i>	<i>Total</i>	<i>14/15</i>
<b>Year Two</b>			
MTH 201 Calculus I Prerequisites: MTH 122 and MTH 123; MTH 124 or proficiency through math placement STA 216 Intermediate Applied Statistics Prerequisite: STA 215 or STA 225 or STA 312 Gen Ed or Language (if BA) CIS 231 Problem Solving Using Spreadsheets (prerequisite to FIN 320) <sup>2</sup> Elective	4  3 3/4 3 1-2	MTH 202 Calculus II (prerequisite MTH 201) CIS 161 Computing for Data Science I (prerequisite MTH 122 and 123, or MTH 124) OR CIS 160 Learn to Code in Python OR CIS 162 Computer Science I Prerequisite: MTH 110 ECO 201 Introductory Microeconomics <sup>GE Social/Behavioral</sup> Gen Ed <sup>GE Philosophy and Literature</sup> <sup>2</sup> Elective	4 3/4  3 3 3
<i>Total</i>	<i>14/15</i>	<i>Total</i>	<i>14/16*</i>
<b>Year Three</b>			
STA 321 Applied Regression (Prereq: STA 216) (CLAS Voyage: Experiential Learning) STA 318 Statistical Computing (Prereq: STA 215 or STA 225) <b>OR</b> STA 418 Statistical Computing w/R Prereq: STA 215 or STA 220 or STA 312 AND STA 216 or CIS 162 MTH 204 Linear Algebra I Prerequisites: MTH 122 and 123; or MTH 124; or proficiency through math placement ACC 212 Principles of Financial Accounting Issues gen ed	3 3  3 3 3	STA 311 Introduction to Survey Sampling (Prereq: STA 216) FIN 320 Managerial Finance Prerequisite: ACC 212, CIS 221 or 231, and MTH 110 or 122 or 201 – Permit required ECO 202 Introductory Macroeconomics Prerequisites: ECO 201 Gen Ed <sup>GE Global Perspectives</sup> Issues gen ed	3 3  3 3 3
<i>Total</i>	<i>15</i>	<i>Total</i>	<i>15</i>
<b>Year Four</b>			
STA 412 Mathematical Statistics I (CLAS Voyage: Experiential Learning) Prerequisites: STA 215 or STA 312, and MTH 202 FIN 321 Investments Prerequisite: FIN 320 and STA 215 – Permit Required FIN 331 Risk and Insurance Prerequisite: Junior Standing – Permit Required Gen Ed <sup>GE US Diversity</sup> <sup>2</sup> Elective	4 3 3 3 3	<sup>3</sup> STA 419 Statistics Project ( <b>SWS</b> ) (CLAS Voyage: Capstone) Prerequisite: Prerequisites: Gen Ed Foundations – Writing, STA 216, and 2 of STA 301, STA 310, STA 311, STA 314, STA 315, STA 317, STA 318, and STA 321. STA 415 Mathematical Statistics II (CLAS Voyage: Experiential Learning) Prerequisites: STA 412 and MTH 204 STA 425 Actuarial Probability and Statistics Prerequisite: STA 412 <sup>2</sup> Elective	3   4 3 3 3
<i>Total</i>	<i>16*</i>	<i>Total</i>	<i>16*</i>

\* The block tuition rate is for 12-15 credits. You will pay additional tuition for any credits over 15.

It is imperative to meet with your faculty advisor and an advisor in the CLAS Academic Advising Center regularly.

The CLAS Academic Advising Center is located in C-1-140 MAK, 616-331-8585.

Online at: <http://www.gvsu.edu/clasadvising>

**MTH 124 is designed for calculus-bound students as a replacement for MTH 122 & 123. While students can still fulfill the MTH 201 prerequisite by taking MTH 122 & 123, MTH 124 is strongly recommended.**

<sup>1</sup> Students who self-place into WRT 120 should take this course in the fall semester and then take WRT 130 in the winter semester of their first year. Students who self-place into WRT 150 can take in either semester during their first year. Students will not need to take WRT 150 if they have earned credit for the course through AP/Dual Enrollment. A grade of C or better is required in WRT 130 or 150 in order to satisfy the WRT requirement at GVSU.

<sup>2</sup> Elective refers to any course to help you earn the required 120 credits to graduate.

<sup>3</sup> Students must complete a total of two courses with an SWS attribute. One SWS course should be outside the major.

**Students who are interested in taking the first actuarial exams between third and fourth year, should consult with their Statistics faculty advisor to determine appropriate courses to take in the third year in preparation for the exams.**

### **Bachelor of Arts/Bachelor of Science Degree Requirements**

Statistics students can pursue a Bachelor of Arts or Bachelor of Science degree. Students who wish to obtain a BA must fulfill 3<sup>rd</sup> semester proficiency in a foreign language (201 level). The BS requirements are incorporated into the major requirements and include CIS 162, MTH 201, and MTH 202.

To earn a degree from GVSU, all students must complete the following: 120 total credits, all major/minor requirements, all general education requirements, at least 58 credits from a 4-year institution, and the last 30 credits of the degree completed through GVSU.

### **General Education Overlap**

<b>General Education Categories fulfilled by the Statistics Major:</b>
Mathematical Sciences: MTH 122 or MTH 123 or MTH 124 or MTH 201 or STA 215
Social Behavioral Sciences: option of ECO 201 or ECO 202 (for Actuarial Science Emphasis)

<b>CLAS Voyage Courses</b>	
What is the CLAS Voyage? <a href="https://www.gvsu.edu/clas/clas-voyage-1184.htm">https://www.gvsu.edu/clas/clas-voyage-1184.htm</a> or search "GVSU CLAS Voyage"	
Experiential Learning:	STA 315, STA 321, STA 412, STA 415
Capstone:	STA 419

<b>Application Cognates</b>
<b>All Students Must Complete 15 – 18 Credit Hours</b>
ACC 212 – Principles of Financial Accounting (3)
FIN 320 – Managerial Finance (3) Prerequisite: ACC 212, CIS 221 or 231, and MTH 110 or 122 or 201 – Permit Required
FIN 321 – Investments (3) Prerequisite: FIN 320 and STA 215 – Permit Required
FIN 331 – Risk and Insurance (3) Prerequisite: Junior Standing – Permit Required
ECO 201 – Introductory Microeconomics (3) Prerequisite: MTH 108&109, or MTH 110, or 122, or 201
ECO 202 – Introductory Macroeconomics (3) Prerequisite: ECO 201