COLLEGE OF LIBERAL ARTS AND SCIENCES (CLAS) ACADEMIC ADVISING CENTER 2021-2022

MATHEMATICS-APPLIED EMPHASIS (STARTING IN MTH 201)

BACHELOR OF ARTS OR BACHELOR OF SCIENCE DEGREE

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

Year One			
MTH 201 Calculus I Prerequisites: MTH 122 and MTH 123, or MTH 124, or proficiency through math placement	4	MTH 202 Calculus II Prerequisite: MTH 201	4
Gen Ed or [2]WRT 120 (self-placement)	3	[4] MTH 204 Linear Algebra I Prerequisites: MTH 122 and MTH 123, or MTH 124, or proficiency through math placement	3
Gen Ed	3	[1]WRT 130 or 150	3 or 4
[2]Elective	3	Gen Ed	3
[2]Elective	1	[2]Elective	1
[2]Elective	1	[2]Elective	1
Total	*15*	*Total*	*15/16*
Year Two			
[3]MTH 210 SWS Communicating in Mathematics Prerequisites: Gen Ed Foundations – Writing and MTH 201	4	MTH 304 Analysis of Differential Equations Prerequisites: MTH 203 and 204	3
MTH 203 Calculus III Prerequisite: MTH 202	4	CIS 161 Computational Science (recommended) OR CIS 162 Computer Science I OR CIS 261 Structured Programming in C	3-4
Gen Ed	3	Gen Ed	3
Gen Ed	3	Gen Ed	3
[2]Elective	1	[2]Elective	3
Total	*15*	*Total*	*15-16**
Year Three			
[4] MTH 205 Linear Algebra II Prerequisites: MTH 204 or 302	3	MTH 305 Mathematical Modeling Prerequisites: MTH 302 or 304; and CIS 161 or CIS 162	3
STA 312 Probability and Statistics Prerequisites: MTH 201	3	MTH 360 Operations Research Prerequisites: MTH 204 or 302	3
[2]Elective	3	Gen Ed	3
Gen Ed	3	Gen Ed	3
[2]Elective	3	[2]Elective	3
Total	*15*	*Total*	*15*
Year Four			
MTH 405 Numerical Analysis Prerequisites: MTH 204, CIS 162, and either MTH 302 or 304	3	MTH 490 Mathematics Internship Seminar (Capstone) Prerequisites: Approval of the Deaprtment and junior standing	2-3
[5] MTH Elective	3	***OR*** MTH 498 Project-Based Applied Mathematics (Capstone) Prerequisites: MTH 205, 210, 305, and permission of instructor. Restricted to math majors.	
Issue	3	[5] MTH Elective	3
[2]Elective	3	Issue	3
[2]Elective	3	[2]Elective	3
		[2]Elective	3
		[2]Elective (if necessary)	1
Total	*15*	*Total*	*15/16*

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

[1]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 it 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.

[2] Elective refers to any course to help you earn the required 120 credits to graduate.

[3] Students must complete a total of two courses with an SWS attribute.

[4] Students that transfer in MTH 302 are not required to take MTH 204 + 304. Instead take an additional math elective from the list below.

[5] Mathematics students must complete a total of 13 courses in Math. These electives are listed on the back.

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.
Your academic advisor in the CLAS Academic Advising Center is Nick Woodward (woodwani@gvsu.edu)
Online at: http://www.gvsu.edu/clasadvising

Degree Requirements

Mathematics students can pursue a Bachelor of Arts or Bachelor of Science degree. Students who wish to obtain a BA must fulfill 3rd semester proficiency in a foreign language (201 level). The BS requirements are incorporated into the major requirements and include MTH 201, MTH 202, and STA 312.

Declaring the Mathematics Major:

1. Log into myBanner from the GVSU homepage
2. Once logged in, select "Student," "Student Records," and then "Change Major"
3. Click on the "Change Major 1/Program" box
4. Click on the down arrow in the box next to "New Major 1/Program"
5. From here scroll down and find "Mathematics - Applied." There are two options BA or BS. Click on the option you prefer.
6. Click "Submit" and then click "Change to New Program"

General Education Overlap

General Education Categories fulfilled by the Mathematics Major:
Mathematical Sciences: MTH 201

Additional Courses Choose from the following list for a total of 13 courses in mathematics – electives must be at the 300 level or higher	
MTH 315 Discrete Mathematics	MTH 441 Topology
MTH 401 Mathematics for the Physical Sciences	MTH 465 Automata and Theory of Computation
MTH 402 Complex Variables	MTH 496 Senior Thesis
MTH 406 Linear Algebra III	MTH 498 (if MTH 490 is taken as capstone)
MTH 408 Real Analysis I	
With unit head permission: MTH 380, 387, 399, 480 and 499	

Courses not applicable as Math electives are: MTH 300, 312, 322, 323, 324, 325, 329, 331, 350, 386, 409, 431, 450, and 495.

MTH Cognate Courses Required
CIS 161 Computational Science **Or** CIS 162 Computer Science I **Or** CIS 261 Structured Programming in C **And** STA 312 Probability and Statistics