

BIOMEDICAL SCIENCES-BS-MICROBIOLOGY EMPHASIS

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

Year One			
¹BIO 120 General Biology I Prerequisites: High school chemistry, CHM 109, or CHM 115 strongly recommended (CHM 109 or 115 may be taken concurrently)	4 (6)	BMS 208 Human Anatomy Prerequisite: BIO 120	3
CHM 115 Principles of Chemistry I Prerequisites: High school chemistry and (MTH 110 or MTH 122 or MTH 125 or MTH 201)	4 (6)	CHM 116 Principles of Chemistry II Prerequisites: CHM 115 and (MTH 122 or MTH 125 or MTH 201)	5 (7)
MTH 122 College Algebra Prerequisite: MTH 110 or assignment through Grand Valley math placement	3	WRT 150 Strategies in Writing Gen Ed	4 3
Gen Ed	3		
Elective	1		
<i>Numbers noted within (parentheses) are contact hours</i> <i>Total</i>	<i>15</i>	<i>Total</i>	<i>15</i>
Year Two			
BIO 375 Genetics/ BIO 376 Genetics Laboratory Prerequisites: BIO 120. Concurrent enrollment in BIO 376 is required (recommended)	3/1 (6)	BMS 212 Introductory Microbiology Prerequisites: BIO 120 and (CHM 230 or CHM 232 or CHM 241)	3
OR BIO 355 Human Genetics Prerequisite: BIO 120 or BIO 103, or permission of instructor	3	BMS 213 Laboratory in Microbiology Prerequisite: BMS 212 or concurrent enrollment	1 (4)
CHM 241 Organic Chemistry for Life Sciences I Prerequisite: CHM 116	5 (7)	CHM 242 Organic Chemistry for Life Sciences II Prerequisite: CHM 241	4 (6)
STA 215 Introductory Applied Statistics Prerequisite: MTH 110 or equivalent	3	⁴MTH 123 Trigonometry Prerequisite: MTH 122 or assignment through Grand Valley math placement (MTH 122 may be taken concurrently)	3
Gen Ed	3	Gen Ed	3
Elective (if needed)	1	Elective	1
<i>Total</i>	<i>15</i>	<i>Total</i>	<i>15</i>
Year Three			
BMS 312 Bacterial Genetics (offered fall in even numbered years) Prerequisites: BMS 212 or BIO 357, and BIO 355 or BIO 375	3	BMS 290 Human Physiology Prerequisites: BMS 208 and two semesters of chemistry	3
BMS 313 Bacterial Genetics Laboratory Prerequisite: BMS 312 or concurrent registration	1 (4)	BMS 291 Laboratory in Human Physiology Prerequisites: BMS 290 or concurrent registration	1 (3)
CHM 461 Biochemistry I Prerequisite: CHM 242, CHM 247, or CHM 248	4	⁵Biomedical Science Elective	3
Issue	3	Issue	3
² Elective	3	³ Gen Ed	3
² Elective	1	² Elective	2
<i>Total</i>	<i>15</i>	<i>Total</i>	<i>15</i>
Year Four			
BMS 422 Bacterial Physiology (offered fall in odd numbered years) Prerequisite: BMS 212 or BIO 357	3	BMS 499 Research in the Biomedical Sciences	1-3
BMS 423 Bacterial Physiology Lab Prerequisite: BMS 422 or concurrent registration	2 (6)	PHY 221 General Physics II Prerequisites: PHY 220	5 (7)
PHY 220 General Physics I Prerequisites: MTH 122 and MTH 123	5 (7)	⁵Biomedical Science Elective	3
Gen Ed	3	Gen Ed	3
² Elective	2	² Elective	1-3
<i>Total</i>	<i>15</i>	<i>Total</i>	<i>15</i>

See reverse for notes

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

¹ CMB 155+156 can sub for BIO 120 for those students interested in research (with advisor approval)

² Elective refers to any course that will help you earn the required 120 credits to graduate.

³ Students must complete two courses with an SWS attribute.

⁴ For students with the Advanced Waiver for Mathematics based on ACT/SAT scores, it is **STRONGLY RECOMMENDED** that proficiency in MTH 123 – Trigonometry – be demonstrated by either taking the MTH 123 course or by achieving a passing score on the GVSU math placement

test **PRIOR** to taking PHY 220 and 221. Students who have AP/IB/dual enrollment credit for MTH 201 (Calculus I), or complete the MTH 122 and 123 proficiency tests, only need to complete STA 215. MTH 124 and MTH 201 will substitute for MTH 122 and MTH 123.

To take the Math Proficiency Tests online, visit this link: gvsu.edu/s/mv

⁵Biomedical Science Electives must consist of at least 6 hours of upper-division Biomedical Science courses. See list below for elective options.

Declaring the BMS-Microbiology Major:

1. In myBanner, select "Student" > "Student Records" > "Change Major" > "Change Major 1/Program"
2. Choose "Biomedical Science-BS Microbiology" from the drop-down box.
3. Click "Submit" and then "Change to New Program"
4. Declare "**PreProfessional Preparation**" as your SECOND MAJOR if you are planning on medical, dental, pharmacy, or optometry school.

General Education Overlap

General Education Categories fulfilled by the Biomedical Sciences Major:	
Life Sciences with Lab: BIO 120	Physical Sciences with Lab: CHM 115
Mathematical Sciences: STA 215, MTH 122, MTH 123	
Additional Overlap for Pre-Professional Students	
Social and Behavioral Sciences: PSY 101 and SOC 101	

Biomedical Science Microbiology Emphasis Elective Courses

BMS 394 Laboratory Assistant in Microbiology (1)* ¹ BMS 410 Immunology (4) ² BMS 411 Immunology Laboratory (1)* ² BMS 412 Medical Bacteriology (3) ² BMS 413 Medical Bacteriology Laboratory (2) *with advisor approval	² BMS 431 Medical Virology (3) ¹ BMS 432 Medical Mycology (2)* CHM 462 Techniques in Biochemistry (3) ¹ CMB 414 Molecular Biology of the Gene (3)* <i>Numbers in parentheses indicate # of credits</i> ¹ Offered in Fall Only ² Offered in Winter Only
--	---

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

<http://www.gvsu.edu/clasadvising> (Also find us on Facebook and Twitter!)

Pre-Professional Students

(Pre-Chiropractic, Pre-Dental, Pre-Medical, Pre-Optometry, Pre-Pharmacy, Pre-Podiatry, & Pre-Veterinary)

Keep in mind that you may major in anything so long as you complete the prerequisites for your professional program.

To schedule an appointment with a Biomedical Sciences and/or Pre-Professional Advisor in the CLAS Academic Advising Center, visit www.gvsu.edu/clasadvising and click on "Schedule Appointment"

To find more information on Pre-Professional programs, visit www.gvsu.edu/clasadvising/preprofessional