

BIOMEDICAL SCIENCES-BSTHIS IS A **GENERAL** CURRICULUM GUIDE AND IS NOT APPLICABLE TO EVERY STUDENT. IT IS IMPORTANT TO MEET WITH YOUR ADVISOR.

Year One			
BIO 180 Bio 120 Preparatory Course	3	MTH 109 Algebra Stretch II Prerequisite: MTH 108	3
² WRT 120 Strategies of Writing – Stretch I	3	CHM 100 Preparatory Chemistry Prerequisites: MTH 108 and 109. MTH 109 may be taken concurrently.	3
MTH 108 Algebra Stretch I	3	WRT 130 Strategies in Writing-Stretch II (GE Writing) Prerequisites: WRT 120	3
Gen Ed (GE Art)	3	¹ BIO 120 General Biology I (w/lab) (GE Life Science) Prerequisites: High school chemistry, CHM 109, or CHM 125/126 strongly recommended (CHM 109 or 125/126 may be taken concurrently)	4 (6)
<i>Numbers noted within (parentheses) are contact hours</i>	<i>Total</i>		<i>Total</i>
	12		13
Year Two			
MTH 122 College Algebra Prerequisite: MTH 110 or by Grand Valley math placement	3	BMS 208 Human Anatomy Prerequisite: BIO 120	3
CHM 125/126 Principles of Chemistry I (w/lab) (GE Physical Science) Prerequisites: High school chemistry and (MTH 108/109, MTH 110, MTH 122, MTH 125 or MTH 201; or fulfillment of MTH 110 through Math Placement [<i>gvsu.edu/s/mv</i>])	3/1 (6)	CHM 127/128 Principles of Chemistry II (w/lab) Prerequisites: CHM 125/126 and (MTH 122 or MTH 125 or MTH 201)	4/1(7)
Gen Ed (GE Social/Behavioral)	3	STA 215 Introductory Applied Statistics (GE Math) Prerequisite: MTH 108/109, MTH 110, or fulfillment of MTH 110 through Math Placement (<i>gvsu.edu/s/mv</i>)	3
Gen Ed (GE Philosophy and Literature)	3	Gen Ed (GE Social/Behavioral)	3
	<i>Total</i>		<i>Total</i>
	13		14
Year Three			
CHM 235/236 Organic Chemistry for Life Sciences I (w/lab) Prerequisite: CHM 127/128	4/1(7)	CHM 237/238 Organic Chemistry for Life Sciences II (w/lab) Prerequisite: CHM 235/236	3/1(6)
BMS 212 Introductory Microbiology Prerequisites: BIO 120 and (CHM 127/128, 231 or 234)	3	BMS 290 Human Physiology Prerequisites: BMS 208 or BIO 302 and two semesters of chemistry	3
BMS 213 Laboratory in Microbiology Prerequisite: BMS 212 or concurrent enrollment	1 (4)	MTH 123 Trigonometry Prerequisite: MTH 122 or assignment through Grand Valley math placement (MTH 122 may be taken concurrently)	3
Gen Ed (GE Historical Analysis)	3	Gen Ed (GE Global Perspectives)	3
Gen Ed (GE US Diversity)	3		
	<i>Total</i>		<i>Total</i>
	15		13
Year Four			
CHM 461 Biochemistry I Prerequisite: CHM 237/238 or CHM 247/248	4	PHY 221 General Physics II (w/lab & discussion) Prerequisites: PHY 220	5 (7)
PHY 220 General Physics I (w/lab & discussion) Prerequisites: MTH 122 and MTH 123	5(7)	BMS 309 Laboratory in Human Anatomy (CLAS Voyage: Experiential Learning) Prerequisite: C- or better in BMS 208	2
BMS 391 Laboratory in Human Physiology (CLAS Voyage: Experiential Learning) Prerequisite: BMS 290 or 251 and two semesters of chemistry	2	⁴ Issue (SWS) (or ⁶ Human Genetics (lecture only) Gen Ed (if remaining) or ³ Elective	3
³ Elective	1		3
	<i>Total</i>		<i>Total</i>
	12		13
Year Five			
BIO 375 Genetics/ BIO 376 Genetics Laboratory BIO 375 Prerequisites: BIO 120 or CMB 155 and 156 BIO 376 Prerequisites: BIO 375 or 355 (either may be taken concurrently)	3/1(6)	⁴ BMS 495 Concepts in Wellness (Capstone) SWS (CLAS Voyage: Capstone) Prerequisites: BMS 208, BMS 212, BMS 290 or 391, and senior standing	3
OR BIO 355 Human Genetics (lecture only) Prerequisite: BIO 120 or BIO 104	3	⁵ Biomedical Science Elective (300 or 400-level)	3
⁵ Biomedical Science Elective (300 or 400-level)	3	⁵ Biomedical Science Elective (400-level, if not taken already)	
Issue	3	³ Elective	
³ Elective	3		

Total	12-13	Total	12
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*The block tuition rate is for 12-15 credits. You will pay additional tuition for any credits over 15.

¹CMB 155+156 can substitute for BIO 120 for those students interested in research.

²Students 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 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.

³Students must have a **minimum of 120 credits** to graduate with **58 of the 120 credits** being from a senior level institution and the **final 30 of the 120 credits** completed at GVSU. Elective refers to any course that will help meet these requirements. **Consider a minor or certificate.**

⁴Students must complete two courses with an SWS attribute.

⁵BMS Electives must consist of at least 9 hours of upper-division Biomedical Science courses. At least 3 credits must be at the 400-level. See list below.

⁶Students preparing for the MCAT, DAT, or OAT are advised to complete Genetics (either BIO 355 or BIO 375) prior to the entrance exam.

General Education Overlap

General Education Categories fulfilled by the Biomedical Sciences Major:	
Life Sciences with Lab: BIO 120	Physical Sciences with Lab: CHM 125/126
Mathematical Sciences: STA 215, MTH 122, MTH 123	
Additional Overlap for Preprofessional Students:	
Social and Behavioral Sciences: PSY 101 and SOC 101	

Biomedical Science Elective Courses (9 credits required)		
<p>Anatomy</p> <p>²BMS 355 Anatomy of Joints (2) w/Lab BMS 393 Lab Asst in Human Anatomy (1)</p> <p>¹BMS 427 Neuroanatomy (1)</p> <p>¹BMS 450 Human Histology (4) w/Lab</p> <p>²BMS 460 Regional Human Anatomy (4) w/Lab</p> <p>²BIO 302 Comparative Vertebrate Anatomy w/Lab (4)</p> <p>¹BIO 422 Animal Developmental BIO (3) w/Lab</p> <p>Physiology</p> <p>BMS 310 Basic Pathophysiology (3)</p> <p>BMS 311 Pharmacological Aspects of Biomedical Sciences (3)</p> <p>¹BMS 375 The Biology of Aging (3)</p> <p>BMS 392 Laboratory Assistant in Physiology (1)</p> <p>¹BMS 409 Endocrinology (3)</p> <p>²BMS 426 Sensory Systems Neuroscience: Anatomy and Physiology (3)</p> <p>²BMS 428 Neurosciences (3)</p> <p>²BMS 475 The Pathology of Aging (3)</p> <p>BMS 453 Advanced Pharmacology (3)</p> <p>²BMS 508 Advanced Human Physiology (3) <i>special permission needed</i></p>	<p>Microbiology</p> <p>¹BMS 312 Bacterial Genetics (3) (only offered in even-numbered years)</p> <p>¹BMS 313 Bacterial Genetics Laboratory (1) (only offered in even-numbered years)</p> <p>BMS 394 Lab Asst in Microbiology (1)</p> <p>BMS 410 Immunology (3)</p> <p>²BMS 412 Medical Bacteriology (3)</p> <p>²BMS 413 Medical Bacteriology Laboratory (2)</p> <p>¹BMS 422 Bacterial Physiology (3) (only offered in odd-numbered years)</p> <p>¹BMS 423 Bacterial Physiology Laboratory (2) (only offered in odd-numbered years)</p> <p>²BMS 431 Medical Virology (3)</p> <p>¹BMS 432 Medical Mycology (2)</p> <p>¹BMS 433 Medical Parasitology (3) w/Lab</p> <p>²BIO 416 Advanced Genetics Laboratory (2)</p> <p>CMB 451 Bioinformatics: Tools and Techniques for Life Scientists (3)</p> <p>CMB 411 Genetics of Development & Cancer (3)</p> <p>CMB 414 Molecular Biology of the Gene (3)</p> <p>CMB 426 Nucleic Acids Laboratory (3)</p> <p>²CMB 440 Research Applications in Drosophila Genomics (3) w/Lab</p> <p>CMB 452 Computer Modelling and Drug Design (3)</p> <p>CMB 460 Genomics & Molecular Diagnostics (3)</p>	<p>Nutrition</p> <p>BMS 305 Clinical Nutrition (3)</p> <p>¹BMS 306 Advanced Human Nutrition (3)</p> <p>BMS 407 Nutrition in the Life Cycle (3)</p> <p>²BMS 415 Nutrition and Physical Performance (3)</p> <p>General</p> <p>BMS 301 Introduction to Research in Biomedical Sciences (3)</p> <p>BMS 380/480 Special Topics in the Biomedical Sciences (1-4)</p> <p>BMS 399 Readings in the Biomedical Sciences (1-3)</p> <p>BMS 492 Biomedical Sciences Internship (1-4)</p> <p>BMS 499 Research in the Biomedical Sciences (1-3)</p> <p>CMB 405 Cell and Molecular Biology (4)</p> <p>CMB 406 Cell and Molecular Biology Lab (2)</p> <p>CHM 462 Techniques in Biochemistry w/Lab (3)</p> <p>²CHM 463 Biochemistry II (3)</p> <p style="text-align: center;"><i>Numbers in parentheses indicate # of credits</i></p> <p style="text-align: center;">¹<i>Offered in Fall Only</i></p> <p style="text-align: center;">²<i>Offered in Winter Only</i></p>

CLAS Voyage Courses	
What is the CLAS Voyage? https://www.gvsu.edu/clas/clas-voyage-1184.htm or search "GVSU CLAS Voyage"	
Experiential Learning	BMS 309 & BMS 391
Capstone	BMS 495

**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-1-120 MAK, 616-331-8585**

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

To find more information on Preprofessional programs, visit www.gvsu.edu/clasadvising/preprofessional