COLLEGE OF LIBERAL ARTS AND SCIENCES (CLAS) ACADEMIC ADVISING CENTER 2015-2016

BIOMEDICAL SCIENCES-BS-GEN.EMPH./APPLIED STATISTICS MINOR

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

Year One			
BIO 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)*	**CHM 116** Principles of Chemistry II Prerequisites: CHM 115 and (MTH 122 or MTH 125 or MTH 201)	5 *(7)*
CHM 115 Principles of Chemistry I Prerequisites: High school chemistry and (MTH 110 or MTH 122 or MTH 125 or MTH 201)	4 *(6)*	**WRT 150** Strategies in Writing	4
[6]**MTH 122** College Algebra Prerequisite: MTH 110 or by Grand Valley math placement	3	**STA 215** Introductory Applied Statistics Prerequisite: MTH 110 or equivalent	3
Gen Ed	3	Gen Ed	3
[4]Elective	1		
Numbers noted within (parentheses) are contact hours *Total*	*15*	*Total*	*15*
Year Two			
BMS 208 Human Anatomy Prerequisite: BIO 120 or BMS 202	3	**BMS 290** Human Physiology Prerequisites: BMS 208 and two semesters of chemistry	3
CHM 241 Organic Chemistry for Life Sciences I Prerequisite: CHM 116	5 *(7)*	**BMS 291** Laboratory in Human Physiology Prerequisite: BMS 290 or concurrent registration	1 *(3)*
STA 216 Intermediate Applied Statistics Prerequisites: STA 215 or STA 312	3	**CHM 242** Organic Chemistry for Life Sciences II Prerequisite: CHM 241	4 *(6)*
Gen Ed	3	[3]**BMS 301** Introduction to Research in Biomedical Sciences Prerequisites: STA 215 and sophomore standing	3
[4]Elective	2	[6]**MTH 123** Trigonometry Prerequisite: MTH 122 or assignment through Grand Valley math placement (MTH 122 may be taken concurrently)	3
Total	*16*	*Total*	*14*
Year Three			
[3]**BIO 375** Genetics/**BIO 376** Genetics Laboratory Prerequisites: BIO 120. Concurrent enrollment in BIO 376 is required (*Recommended for pre-med students*)	3/1 *(6)*	**BMS 212** Introductory Microbiology Prerequisites: BIO 120 and (CHM 230 or CHM 232 or CHM 241)	3
OR [3]**BIO 355** Human Genetics (lecture only) 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 461 Biochemistry I Prerequisite: CHM 242 or CHM 247 and CHM 248	4	**PHY 221** General Physics II Prerequisites: PHY 220	5 *(7)*
OR **CHM 232** Biological Chemistry Prerequisite: CHM 231 or 242	4 *(7)*	[2]Statistics Elective	3
PHY 220 General Physics I Prerequisites: MTH 122 and MTH 123	5 *(7)*	Issue	3
Gen Ed	3		
Total	*15-16**	*Total*	*15*
Year Four			
[5]**BMS 495** Concepts in Wellness (Capstone) *SWS* Prerequisites: BMS 208, BMS 212, BMS 290 or 291, and senior standing	3	[1]Biomedical Science Elective	3
		[1]Biomedical Science Elective	3
Gen Ed	3	Gen Ed	3
Issue	3	[2]Statistics Elective	3
[2]Statistics Elective	3	[4]Elective	3
[4]Elective	3		
Total	*15*	*Total*	*15*

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

[1] Biomedical Science Electives must consist of at least 6 hours of upper-division Biomedical Science courses. See list on the back for elective options.

[2] Statistics Electives must consist of at least 9 hours of upper-division Statistics courses. See list on the back for elective options.

[3] Biomedical Science Classes approved as additional cognate courses for the statistics minor

[4] Elective refers to any course that will help you reach the required 120 credits to graduate.

[5] Students must complete two courses with an SWS attribute.

[6] For students with the Advanced Waiver/Override for Mathematics based on ACT 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. ***To take the Math Proficiency Tests online, visit this link: gvsu.edu/s/mv***

Pre-Professional Students

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

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

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	Social and Behavioral Sciences: SOC 205
U.S. Diversity: SOC 205	

Biomedical Science Elective Courses (6 credits required)		
Anatomy	**Microbiology**	**Nutrition**
BMS 309 Laboratory in Human Anatomy	BMS 312 Bacterial Genetics	BMS 305 Clinical Nutrition
BMS 355 Anatomy of Joints	BMS 313 Bacterial Genetics Laboratory	BMS 306 Advanced Human Nutrition
BMS 427 Neuroanatomy	BMS 410 Immunology	BMS 307 Advanced Clinical Nutrition
BMS 450 Human Histology	BMS 411 Immunology Laboratory	BMS 404 Community Nutrition
BMS 460 Regional Human Anatomy	BMS 412 Medical Bacteriology	BMS 407 Nutrition in the Life Cycle
BIO 422 Embryology	BMS 413 Medical Bacteriology Laboratory	BMS 415 Nutrition and Physical Performance
	BMS 422 Bacterial Physiology	
	BMS 423 Bacterial Physiology Laboratory	**General**
Physiology	BMS 431 Medical Virology	BMS 380 Special Topics in the Biomedical Sciences
BMS 310 Basic Pathophysiology	BMS 432 Medical Mycology	BMS 399 Readings in the Biomedical Sciences
BMS 311 Pharmacological Aspects of Biomedical Sciences	BMS 433 Medical Parasitology	BMS 492 Biomedical Sciences Internship
BMS 375 The Biology of Aging		BMS 499 Research in the Biomedical Sciences
BMS 392 Laboratory Assistant in Physiology		CMB 405 Cell and Molecular Biology
BMS 408 Advanced Human Physiology		CMB 406 Cell and Molecular Biology Laboratory
BMS 426 Sensory Systems Neuroscience: Anatomy and Physiology		BIO 422 Embryology
BMS 428 Neurosciences		CHM 461 Biochemistry I
BMS 475 The Pathology of Aging		

Statistics Elective Courses (9 credits required)		
STA 310 Introduction to Biostatistics	STA 315 Design of Experiments	STA 319 Statistics Project
STA 311 Introduction to Survey Sampling	STA 317 Nonparametric Statistical Analysis	STA 321 Applied Regression Analysis
STA 314 Statistical Quality Methods	STA 318 Statistical Computing	STA 426 Multivariate Data Analysis

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 Orgsync, Facebook, and Twitter!)

Pre-Professional Advisors:

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See http://gvsu.edu/s/zY for additional details regarding professional school information.

Follow the Pre-Professional Blog: https://preprofessionallakers.wordpress.com

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