

Research (Thesis) Emphasis Curriculum – 2026/2027 Academic Year Academic Year

Course	Description	Credits
Required Courses		
<i>Core CMB courses</i>		
CMB 520	Lab Techniques	3
CMB 501	Scientific Communication	3
CMB 505	Advanced Cell Biology	3
CMB 506	Advanced Molecular Biology	3
CMB 509	Responsible Conduct of Research	1
 <i>Research and Thesis</i>		
CMB 695	Thesis Research Credits	6-9
 <i>Biostatistics</i>		
STA 622	Statistical Methods for Biologists*	3
Sub-Total	Total Required Credits	22-25
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Sub-Total	Total Elective Credits	10-13
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Grand Total	Total Required and "Elective" Credits	35

* STA 610-01 Statistics for Health Professions 3
(Allowed substitution for STA 622)

Elective Course Offerings for MS Research Emphasis (Thesis) - keep in mind that other departments might have graduate courses of interest to you (Biomedical Sciences (BMS), Biology (BIO), etc.).

CMB 551	Bioinformatics: Tools and Techniques for Life Scientists (3 cr), Fall
CMB 552	Computer Modeling & Drug Design (3 cr), Winter
CMB 560	Genomics and Molecular Diagnostics (3 cr), Fall
CMB 585	Molecular Ecology (3 cr), Winter
CMB 610	Foundations of Biotechnology (3 cr), Fall & Winter
CMB 620	Cell Culture & Bioprocessing (3 cr), Winter
CMB 626	Advanced Research Applications in Nucleic Acids (4 cr), Fall & Winter
CIS 661	Medical & Bioinformatics (3 cr), Fall & Winter
STA 616	Statistical Programming (3 cr), Winter
PSM 650	Ethics and Professionalism (3 cr), Fall, Winter & Spring/Summer

Bioinformatics & Genomics Certificate option – This certificate requires 3 core courses, CMB 551, CMB 552, & CMB 560, plus one elective from a list of options. Check out this link for more information (scroll down to reach the MS info):
<https://www.gvsu.edu/cmb/certificates-93.htm>

Research (Thesis) Emphasis – example schedule

Semester/Course	Credits	When/where	Additional course offerings
Fall – 1st year			
<i>CMB 501 Scientific Communication</i>	3	W 9-12:50, 1173 KHS	
<i>CMB 520 Lab Techniques</i>	3	M 11-2:50, 3302 KHS	
One additional course	2-3		CMB 505, CMB 610, CMB 551, CMB 560, PSM 650, STA 610-01 OR 622, CIS 661
Total	8-9		
Winter			
<i>CMB 506 Advanced Molecular Biology</i>	3	W 6-8:50, 710 EC	CMB 509 (1 cr), CMB 610, CMB 552, CMB 626, STA 610-01, CIS 661, PSM 650
<i>CMB 695 Thesis</i>	1-3		
<i>STA 622 or STA 610-01</i>	3		
Total	7-9		
Spring/Summer			
			PSM 650, PSM 662 (2 cr)
Total	0-6		
Fall – 2nd year			
CMB 505 Advanced Cell Biology	3		
CMB 626 Advanced Research Applications in Nucleic Acids	4		
1 additional course <i>(*do not take > 9-10 credits total if taking CMB 626)</i>	2-3		CMB 610, CMB 551, CMB 560, PSM 650, PSM 662 (2 cr), STA 610-01 or 622, CIS 661
Total	9-10		
Winter			
2-3 additional courses <i>(*do not take > 9-10 credits total if taking CMB 626)</i>			CMB 509 (1 cr), CMB 610, CMB 552, CMB 626, STA 610-01, CIS 661, PSM 650
Total	8-11		
Spring/Summer			
Courses if necessary	2-6		PSM 650, PSM 662 (2 cr)

