

# Graduate Degree Plan - Checklist

## PhD in Quantitative & Computational Biosciences

Students Starting Academic Year: 2023-2024

<b>Foundations Courses (10 credits):</b>				
	GS-GS-6600	Foundations A: Molecules to Systems	6	
	GS-GS-6400	Foundations B: Biostatistics	4	
<b>Program Core Courses (11 credits):</b>				
	GS-QC-6303	Advanced Computer Programing for Biosciences	3	
	GS-QC-6401	Quantitative & Computational Methods for Biosciences 1	4	
	GS-QC-6402	Quantitative & Computational Methods for Biosciences 2	4	
<b>Didactic Elective Courses (at least 9 credits):</b>				
<b>Responsible Conduct of Research Courses (4 credits):</b>				
	GS-GS-5101	Responsible Conduct of Research 1	1	
	GS-GS-5102	Responsible Conduct of Research 2	1	
	GS-GS-5103	Responsible Conduct of Research 3	1	
	GS-GS-5104	Responsible Conduct of Research 4	1	
<b>Professional Development Course (4 credits):</b>				
	GS-GS-5105	Scientific Writing	1	
	GS-QC-5301	QCB Research Design	3	
<b>Seminar/Journal Literature Courses:</b>				
	GS-QC-5110	Advanced Topics in QCB	1	2 total cr.
<i>Required in terms 1 and 2 of the first year of study.</i>				
	GS-QC-5105	Seminar in Quantitative Biosciences	1	
<i>Required in terms 1-4 every year from matriculation through attainment of Permission-To-Write.</i>				
	GS-QC-5100	Student Research Seminar	1	
<i>Required in term 4 every year from matriculation through attainment of Permission-To-Write.</i>				
<b>Research Hours:</b>				
In each term, students enroll in the number of credits [beyond other coursework] needed to be enrolled full-time (minimum 3)				
	GS-QC-5030	Research Rotation	Var.	
<i>Taken each term when a mentor is not appointed (minimum 3 terms)</i>				
	GS-QC-5040	Special Projects	Var.	
<i>Taken each term after a mentor is appointed, and before candidacy is achieved.</i>				
	GS-QC-5050	Dissertation	Var.	
<i>Taken each term after a mentor is appointed, and after candidacy is achieved.</i>				

# Graduate Degree Plan - Schedule

## PhD in Quantitative & Computational Biosciences

Students Starting Academic Year: 2023-2024

### General Degree Requirements:

- Completion of at least 180 term hours
- At least 30 of those term hours must be in Didactic courses
- Completion of at least three terms of Research Rotation before appointing a major advisor
- Students must maintain satisfactory academic progress as detailed in the Student Handbook

### Year One Requirements:

Term 1:	GS-GS-6600	Foundations A: Molecules to Systems	3 (Didactic) <i>(two-term course)</i>	Total to Date
	GS-GS-6400	Foundations B: Biostatistics	2 (Didactic) <i>(two-term course)</i>	
	GS-GS-5101	Responsible Conduct of Research 1	1	
	GS-QC-5105	Seminar in Quantitative Biosciences	1	
	GS-QC-5110	Advanced Topics in QCB	1	
	GS-QC-6303	Advanced Computer Programming for Biosciences	3 (Didactic)	
		Research Rotation/Elective Courses	3	
Total:			14 (8)	14 (8)
Term 2:	GS-GS-6600	Foundations A: Molecules to Systems	3 (Didactic) <i>(two-term course)</i>	Total to Date
	GS-GS-6400	Foundations B: Biostatistics	2 (Didactic) <i>(two-term course)</i>	
	GS-QC-6401	Quantitative & Computational Methods in Biosciences 1	4 (Didactic)	
	GS-QC-5105	Advanced Topics in QCB	1	
	GS-QC-5110	Seminar in Quantitative Biosciences	1	
	GS-QC-5030	Research Rotation	3	
Total:			14 (9)	28 (17)
Term 3:	GS-QC-6402	Quantitative & Computational Methods in Biosciences 2	4 (Didactic)	Total to Date
	GS-GS-5105	Scientific Writing	1	
	GS-QC-5105	Seminar in Quantitative Biosciences	1	
		Research Rotation/Elective Courses	6	
Total:			12 (4)	40 (21)
Term 4:	GS-QC-5301	QCB Research Design	3	Total to Date
	GS-QC-5100	Student Research Seminar	1	
	GS-QC-5105	Seminar in Quantitative Biosciences	1	
		Research Hours/Elective Courses	7	
Total:			12	52 (21)
Term 5:		Research Hours/Elective Courses	12	Total to Date
	Total:			12

<b>Year Two Requirements:</b>				
Term 1:	GS-QC-5105	Seminar in Quantitative Biosciences	1	Total to Date
		Research Hours/Elective Courses	11	
	Total:		12	
Term 2:	GS-GS-5102	Responsible Conduct of Research 2	1	Total to Date
	GS-QC-5105	Seminar in Quantitative Biosciences	1	
		Research Hours/Elective Courses	10	
Total:		12		
Term 3:	GS-QC-5105	Seminar in Quantitative Biosciences	1	Total to Date
		Research Hours/Elective Courses	11	
	Total:		12	
<i>Student's Thesis Advisory Committee must be appointed by the end of Term 3 in the student's second year of enrollment.</i>				
Term 4:	GS-QC-5100	Student Research Seminar	1	Total to Date
	GS-QC-5105	Seminar in Quantitative Biosciences	1	
		Research Hours/Elective Courses	10	
	Total:		12	
Term 5:		Research Hours/Elective Courses	12	Total to Date
	Total:		12	124 (21)
<i>Nine additional didactic hours are required for a total of thirty (30)</i>				
<b>Qualifying Exam Requirement:</b>				
<ul style="list-style-type: none"> <li>• Must be taken by the end of the second year of enrollment.</li> <li>• Student must complete all prerequisite activities defined by their program before taking the exam</li> </ul>				
<b>Course Requirements beyond Year Two:</b>				
Year Three, Term 3:	GS-GS-5103	Responsible Conduct of Research 3	1	
Year Four, Term 3:	GS-GS-5104	Responsible Conduct of Research 4	1	
<b>Recurring Requirements until Graduation:</b>				
Terms 1-4:	GS-QC-5105	Seminar in Quantitative Biosciences		As required
Term 4:	GS-QC-5100	Student Research Seminar		As required
Terms 1-5:	GS-QC-5050	Dissertation		As required*
<i>*Students shall enroll in the number of credits of Dissertation needed to be enrolled full-time (12 credits) each term through graduation.</i>				
<b>Research Course Work:</b>				
	GS-QC-5010	Readings		
	GS-QC-5030	Research Rotation		
	GS-QC-5040	Special Projects		
	GS-QC-5050	Dissertation		
<b>Additional Quantitative &amp; Computational Biosciences program courses offered*:</b>				
	GS-QC-6201	Applications to Biology of Computation		
	GS-QC-6301	Practical Introduction to Python Programming for Scientists		
	GS-QC-6302	Computer-Aided Discovery Methods		
<p><i>*Students may select electives from open course options in all graduate programs.  Courses may be viewed in the <a href="#">Graduate School Bulletin</a>  Additionally, students may request to attend a limited number of courses offered by partner TMC institutions.  Contact <a href="mailto:qcb-grad@bcm.edu">qcb-grad@bcm.edu</a> for details.</i></p>				