

CURRICULUM FOR M.S. BIOCHEMISTRY AND MOLECULAR BIOLOGY PROGRAM (30 CREDITS)—FALL START

Course #	Fall Schedule	Credits	Course #	Spring Schedule	Credits
<b>Core Courses*</b>			<b>Core Courses*</b>		
BCHB – 513	Core Concepts of Biochemistry*	4	BCHB – 910	Biochemistry Internship*	4
Or BCHB–511	Fundamentals of Biochemistry	4	BCHB - 536	Applications of Cell Culture*	2
BCHB – 526	Core Methods of Biotechnology*	3		<b>If Advanced Lab Still Needed:*</b>	
Or BCHB - 528	Modern Methods of Mol Biol	3	BCHB – 529	Human Diagnostics	2
BCHB – 507	Lab Applications of Biotech*	3	BCHB – 537	Fermentation & Bioprocessing	3
BCHB – 535	Programmed Cell Death ( <i>Adv. Lab</i> ) <sup>(*)</sup>	2	BCHB – 707	Advanced Techniques: Biochem	2
BCHB – 513	Intro to Bioinformatics*	1	BCHB – 575	Immunotechniques in Biochem	1
BCHB – 554	Research Ethics & Integrity***	0			
BCHB – 570	Intro to Biochem Internship***	0		<b>Total (Core)</b>	<b>6 or 8</b>
BCHB – 539	Basic Lab Safety***	0			
BCHB – 810	Career Dev't & Leadership***	0			
	<b>Total (Core)</b>	<b>11 or 13</b>			
<b>Some Suggested Elective Courses**</b>			<b>Some Suggested Elective Courses**</b>		
BCHB – 544	Essentials of Biochem: Metabolism	1	BCHB – 540	Molecular Basis of Carcinogenesis	3
BCHB – 545	Essentials of Programmed Cell Death	1	BCHB – 537	Fermentation & Bioprocessing	3
BCHB – 519	Medical Toxicology	2	BCHB – 522	Drug Target & Design	1
SYSM - 590	Applications of Biostats to Big Data	1 or 3	BCHB – 541	Structural Biology	3
BCHB – 531	DNA Repair to Human Therapy	1	BCHB – 506	Reading Scientific Papers	1
MICB – 612	Immunology	3	BCHB – 710	Scientific Writing	1
PHAR – 584	Introduction to Pharmacology	1	MICB – 619	Biology/Biochem of Viruses	3
TBIO – 584	Introduction to Tumor Biology	1	TBIO – 572	Pathologic Basis of Cancer	2
	<b>Total (Electives)</b>	<b>4 or 2</b>		<b>Total (Electives)</b>	<b>9 or 7</b>

\*Core Courses, MS – Biochem students                      19 credits total

\*\*Suggested Electives, MS – Biochem students        11 credits total

\*\*\*All students *must* add BCHB-539, BCHB-570, BCHB-554, and BCHB-810 (0 credit required courses)

Electives courses chosen from Biotech or other GUMC programs need prior approval from the Program Director