

# Specific Track Policies

## Biochemistry & Structural Biology Track

### I. Coursework

#### FALL YEAR 1

<u>Course #</u>	<u>Course Name</u>	<u>Credit Hours</u>	<u>Graded Hours</u>
MSCI 601	Principles of Basic Medical Sciences I	5	5
SBTM 601	Experimental Techniques in Molecular, Cell, and Systems Biology	4	4
BICH 605	or Methods in Biochemical Analysis	3	3
MSCI 687	Professionalism and Ethics	1	1
MSCI 685	Lab Rotation I & II		
	Semester Hours	9-10	
	Cumulative Hours		

#### SPRING YEAR 1

<u>Course #</u>	<u>Course Name</u>	<u>Credit Hours</u>	<u>Graded Hours</u>
MSCI 602	Principles of Basic Medical Sciences II	5	5
BICH 624	Enzymes, Proteins and Nucleic Acids	3	3
BICH 631	or Biochemical Genetics		3
MSCI 685	Lab Rotation III & IV	1	
	Seminar Course		
	Semester Hours		
	Cumulative Hours	17-19	

#### SUMMER YEAR 1

<u>Course #</u>	<u>Course Name</u>	<u>Credit Hours</u>	<u>Graded Hours</u>
STAT 651	Statistics in Research I	3	3
MSCI 691	Research	3	0
	Semester Hours	6	3
	Cumulative Hours	23-25	20-22

**FALL YEAR 2**

<u>Course #</u>	<u>Course Name</u>	<u>Credit Hours</u>	<u>Graded Hours</u>
MSCI 681	Seminar	1	0
	Electives	6-8	6-8
MSCI 691	Research	0-2	0-2
	Semester Hours	9	6-8
	Cumulative Hours	32-34	26-30

**SPRING YEAR 2**

<u>Course#</u>	<u>Course Name</u>	<u>Credit Hours</u>	<u>Graded Hours</u>
MSCI 681	Seminar	1	0
	Electives	6	6
MSCI 691	Research	2	0
	Semester Hours	9	6
	Cumulative Hours	41-43	32-36

**SUMMER YEAR 2**

<u>Course #</u>	<u>Course Name</u>	<u>Credit Hours</u>	<u>Graded Hours</u>
MSCI 691	Research	6	0
	Semester Hours	6	0
	Cumulative Hours	47-49	32-36

**FALL YEAR 3**

<u>Course #</u>	<u>Course Name</u>	<u>Credit Hours</u>	<u>Graded Hours</u>
MSCI 691	Research	9	0
	Semester Hours	9	0
	Cumulative Hours	56-58	32-36

**SPRING YEAR 3**

<u>Course #</u>	<u>Course Name</u>	<u>Credit Hours</u>	<u>Graded Hours</u>
MSCI 691	Research	9	0
	Semester Hours	9	0
	Cumulative Hours	65-67	32-36

**SUMMER YEAR 3**

<u>Course #</u>	<u>Course Name</u>	<u>Credit Hours</u>	<u>Graded Hours</u>
MSCI 691	Research	6	0
	Semester Hours	6	0
	Cumulative Hours	71-73	32-36

**FALL YEAR 4**

<u>Course #</u>	<u>Course Name</u>	<u>Credit Hours</u>	<u>Graded Hours</u>
MSCI 691	Research	9	0
	Semester Hours 90		
	Cumulative Hours	80-82	32-36

**SPRING YEAR 4**

<u>Course #</u>	<u>Course Name</u>	<u>Credit Hours</u>	<u>Graded Hours</u>
MSCI 691	Research	9	0
	Semester Hours	9	0
	Cumulative Hours	89-91	32-36

**SUMMER YEAR 4**

<u>Course #</u>	<u>Course Name</u>	<u>Credit Hours</u>	<u>Graded Hours</u>
MSCI 691	Research	6	0
	Semester Hours	6	0
	Cumulative Hours	95-97	32-36

**Note:** 96 credit hours are required for the Ph.D. degree (64 hours beyond a Master's or Professional degree). Typically, 32 hours are formal course work, and the remainder is research hours.

**\*CORE COURSES - \*Must be Completed by the End of YEAR 2**

<u>Course #</u>	<u>Course Name</u>	<u>Credit/Graded Hours</u>
MSCI 601	Principles of Basic Medical Sciences I	5
SBTM 601	Experimental Techniques in Molecular, Cell, and Systems Biology	4
	or	
BICH 605	Methods in Biochemical Analysis	3
BICH624	Enzymes, Proteins and Nucleic Acids	3
	or	
BICH 631	Biochemical Genetics	3
MSCI 687	Professionalism and Ethics	1
MSCI 602	Principles of Basic Medical Sciences II	5
STAT 651	Statistics in Research I	3

## ELECTIVES

<u>Course #</u>	<u>Course Name</u>	<u>Credit/Graded Hours</u>
BICH 603	General Biochemistry	3
BICH 624	Enzymes, Proteins, and Nucleic Acids	3
BICH 631	Biochemical Genetics	3
BICH 654	Structural Biochemistry	3
BICH 662	Eukaryotic Transcription	1
BICH 672	Biological Membranes	1
BIOL 611	Molecular Biology of Differentiation/Development	3
BIOL 674	Cellular & Molecular Aspects of Development	3
BIOL 689	Bioinformatics	4
CHEM 626	Thermodynamics	3
CHEM 628	Bioinorganic Chemistry	3
CHEM 646	Organic Chemistry	3
CHEM 672	Bioorganic Reaction Mechanisms	3
CHEM 681	Chemical Biology	1
MCMD 625	Nucleic Acid/Protein Interactions	1
MCMD 671	Macromolecular Folding/Design	1
MSCI 610	Pathogenesis of Human Disease	3
NEXT 605	Molecular Mechanisms of Drug/Toxin Action I	4
MMPA 601	Microbial Pathogenesis	3
SBTM 613	Human Organ Systems	5
VAPH 640	Neurobiology	1-5
VTMI 649	Immunology	3
VTMI/MMIM 663	Molecular Virology	3
VTTP 676	Genetic & Molecular Toxicology	3
ZOOL 601	Biological Clocks	3