

Molecular Biosciences / Genetics and Genomics Track

RED Divisional Foundation Courses, BLUE Interdisciplinary Courses, PURPLE Disciplinary Courses, BROWN Electives

YEAR ONE							
FALL SEMESTER				SPRING SEMESTER			
SESSION 1		SESSION 2		SESSION 1		SESSION 2	
Course		Course		Course		Course	
CHEM 110 Integrated Science – Chemistry	4	MATH 101 Introductory Calculus/ MATH 105 Calculus	4	PHYS 121 Integrated Science – Physics	4	BIOL 110 Integrated Science – Biology	4
				COMPSCI 101 Introduction to Computer Science	4	STATS 101 Introduction to Applied Statistical Methods/MATH 206 Probability and Statistics	4
<i>Total credits</i>	4	<i>Total credits</i>	4	<i>Total credits</i>	8	<i>Total credits</i>	8

YEAR TWO							
FALL SEMESTER				SPRING SEMESTER			
SESSION 1		SESSION 2		SESSION 1		SESSION 2	
Course		Course		Course	credits	Course	
BIOL 201 Cell and Molecular Biology	4	BIOL 202 Genetics and Evolution	4	BIOL305 Biochemistry	4	PHYS 303 Introduction to Biophysics	4
CHEM 201 Organic Chemistry I	4	BIOL 212 Microbiology	4	BIOL 314 Computational Biology and Bioinformatics	4	BIOL 203 Molecular, Behavioral and Social Evolution: Evolution of Genomes, Traits, Behaviors and Societies	4
<i>Total credits</i>	8	<i>Total credits</i>	8	<i>Total credits</i>	8	<i>Total credits</i>	8

YEAR THREE							
FALL SEMESTER				SPRING SEMESTER			
SESSION 1		SESSION 2		SESSION 1		SESSION 2	
Course		Course		Course		Course	
BIOL 304 Molecular Genetic Analysis	4	BIOL 403 Experimental Methods in Functional Genomics	4	BIOL 317 Systems Biology	4	BIOL 320 Bioethics	4
COMPSCI 201	4			BIOL 321	4	BIOL 315	4

Introduction to Programming and Data Structures				Advanced Topics in Cellular and Molecular Biology		Experimental Molecular Biology	
<i>Total credits</i>	8	<i>Total credits</i>	4	<i>Total credits</i>	8	<i>Total credits</i>	8

YEAR FOUR							
FALL SEMESTER				SPRING SEMESTER			
SESSION 1		SESSION 2		SESSION 1		SESSION 2	
Course		Course		Course	credits	Course	
BIOL 307 Cancer Genetics	4	BIOL 407 Population Genomics and Molecular Evolution	4	MATH 410 Modeling Biological Systems	4	BIOL 404 Genomics of Adaptation	4
				BIOL 409/ GLHLTH 409 Fundamental Immunology	4		
<i>Total credits</i>	4	<i>Total credits</i>	4	<i>Total credits</i>	8	<i>Total credits</i>	4

Please read suggestions:

1. Students are advised to take the courses in the same year if he/she can't take the course in the suggested session.
2. Students in this track are highly encouraged to learn advanced computer skills, bioinformatics, large data analysis, AI, and computational modeling.