

LOYOLA UNIVERSITY CHICAGO

B.S. IN BIOINFORMATICS

NEW (F2023) MAJOR SAMPLE SCHEDULE – PRE-HEALTH

CLASSES RECOMMENDED/REQUIRED FOR PRE-HEALTH STUDENTS THAT ARE NOT REQUIRED FOR THE MAJOR ARE IN BLUE

FALL	SPRING
YEAR 1	
General Biology (BIOL 101) (3) <i>General Biology Lab I (BIOL 111) (1)</i> Chemical and Structural Properties (CHEM 160) ¹ (3) <i>General Chemistry Lab A (CHEM 111) (1)</i> Applied Calculus I (MATH 131) ² (3) CORE: College Writing Seminar (3) UNIV 101 (1) 15 Credit Hours	<i>General Biology II (BIOL 102) (3)</i> <i>General Biology Lab II (BIOL 112) (1)</i> Chemical Reactivity I (CHEM 180) ³ (3) <i>General Chemistry Lab B (CHEM 112) (1)</i> Applied Calculus II (MATH 132) ⁴ (3) Intro to Computing Tools (COMP 141) (3) CORE: Historical Knowledge Tier 1 (3) 17 Credit Hours
YEAR 2	
Genetics (BIOL 282) (3) Genetics Lab (BIOL 283) (1) Chemical Reactivity II (CHEM 240) ⁵ (3) <i>Organic Chemistry Lab A (CHEM 225) (1)</i> Intro to Programming (MATH 215) ⁶ (3) CORE: Philosophical Knowledge Tier 1 (3) 14 Credit Hours	Quantitative Methods in Chemistry (CHEM 260) ⁷ (3) <i>Organic Chemistry Lab B (CHEM 226) (1)</i> Data Structures & Algorithms (COMP 231) (3) CORE: Historical Knowledge Tier 2 (3) CORE: Philosophical Knowledge Tier 2 (3) CORE: Ethics (3) 16 Credit Hours
YEAR 3	
Bioinformatics (BIOL 388) (3) [Fall only] Biochemistry (CHEM 361) (3) CAS Language Requirement 1 (3) ⁸ CORE: Literary Knowledge & Experience Tier 1 (3) <i>College Physics I (PHYS 111) (3)</i> <i>College Physics Lab I (PHYS 111L) (1)</i> 16 Credit Hours	Genomics (BIOL 387) (3) ⁹ [Spring only] Undergraduate Capstone (BIOI 397/398/399) ¹⁰ (1+) CAS Language Requirement 2 (3) CORE: Societal and Cultural Knowledge Tier 1 (3) <i>College Physics II (PHYS 112) (3)</i> <i>College Physics Lab II (PHYS 112L) (1)</i> 14+ Credit Hours
YEAR 4	
Introduction to Biostatistics (STAT 335) (3) Exploring Proteins (BIOI 365) (3) ^{11,12} [Fall only] B.S. Bioinformatics COMP elective (3) ¹² or Molecular Biology Lab (BIOL 390) ¹² (4) CORE: Societal and Cultural Knowledge Tier 2 (3) CORE: Theology and Religious Studies Tier 1 (3) 15 (or 16) Credit Hours	Computational Biology (COMP 383) (4) [Spring only] Quant. Bioinformatics (STAT 337) ¹³ (3) [Spring only] CORE: Artistic Knowledge and Experience (3) CORE: Literary Knowledge & Experience Tier 2 (3) CORE: Theology and Religious Studies Tier 2 (3) 16 Credit Hours

¹ Starting Fall 2023, Chemistry requirements begin to phase out the CHEM 101 curriculum track. Students that have already pursued these requirements may continue on the old curriculum track. Freshmen and new majors will take CHEM 160; ² May substitute with MATH 161; ³ Replaces CHEM 102; ⁴ May substitute with MATH 162; ⁵ Replaces CHEM 223; ⁶ May substitute with COMP 170 (offered fall, spring and summer); ⁷ Replaces CHEM 224; ⁸ Language competency required at the 102 level by course or [test](#); ⁹ May substitute with Metagenomics (BIOL 392) [Fall only]; ¹⁰ the Research Survey course (BIOI 397), Research Internship (BIOI 398), and Research (BIOI 399) can be taken any semester offered and Internship/research can be repeated with each semester 1-4 credit hours (although only 1 credit hour is required for the major); ¹¹ May substitute with Proteomics (CHEM 365) [Spring Odd Years only]; ¹² Choose 2 of 3: (1) Exploring Proteins (BIOI 365) [Fall only] or Proteomics (CHEM 365) [Spring Odd Years only], (2) Machine Learning (COMP 379) [Fall only] or Database Programming (COMP 353), (3) Molecular Biology Lab (BIOL 390); ¹³ May substitute with STAT 336.

Note: College of Arts & Sciences requires 2 Writing Intensive (WI) courses; many CORE Tier 2 courses are available as WI; Molecular Biology Lab (BIOL 390) is also WI. Note, only 1 WI course can be taken in a single semester.

Note: 120 credit hours are required for graduation.