

LOYOLA UNIVERSITY CHICAGO

B.S. IN BIOINFORMATICS

NEW (F2020) MAJOR SAMPLE SCHEDULE – PRE-HEALTH

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

FALL	SPRING
<b>YEAR 1</b>	
General Biology (BIOL 101) (3) <i>General Biology Lab I (BIOL 111) (1)</i> General Chemistry A (CHEM 101) <sup>1</sup> (3) <i>General Chemistry Lab A (CHEM 111) (1)</i> Applied Calculus I (MATH 131) <sup>2</sup> (3) CORE: College Writing Seminar (3) UNIV 101 (1) <b>15 Credit Hours</b>	<i>General Biology II (BIOL 102) (3)</i> <i>General Biology Lab II (BIOL 112) (1)</i> General Chemistry B (CHEM 102) <sup>3</sup> (3) <i>General Chemistry Lab B (CHEM 112) (1)</i> Applied Calculus II (MATH 132) <sup>4</sup> (3) Intro to Computing Tools (COMP 141) (3) CORE: Historical Knowledge Tier 1 (3) <b>17 Credit Hours</b>
<b>YEAR 2</b>	
Genetics (BIOL 282) (3) Genetics Lab (BIOL 283) (1) Organic Chemistry A (CHEM 223) <sup>5</sup> (3) <i>Organic Chemistry Lab A (CHEM 225) (1)</i> Intro to Programming (MATH 215) <sup>6</sup> (3) CORE: Philosophical Knowledge Tier 1 (3) <b>14 Credit Hours</b>	Organic Chemistry B (CHEM 224) <sup>7</sup> (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) <b>16 Credit Hours</b>
<b>YEAR 3</b>	
Bioinformatics (BIOL 388) (3) [Fall only] Biochemistry (CHEM 361) (3) CAS Language Requirement 1 (3) <sup>8</sup> CORE: Literary Knowledge & Experience Tier 1 (3) <i>College Physics I (PHYS 111) (3)</i> <i>College Physics Lab I (PHYS 111L) (1)</i> <b>16 Credit Hours</b>	Genomics (BIOL 387) (3) <sup>9</sup> [Spring only] Undergraduate Capstone (BIOI 397/398/399) <sup>10</sup> (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> <b>14+ Credit Hours</b>
<b>YEAR 4</b>	
Introduction to Biostatistics (STAT 335) (3) Exploring Proteins (BIOI 365) (3) <sup>11,12</sup> [Fall only] B.S. Bioinformatics COMP elective (3) <sup>12</sup> <b>or</b> Molecular Biology Lab (BIOL 390) <sup>12</sup> (4) CORE: Societal and Cultural Knowledge Tier 2 (3) CORE: Theology and Religious Studies Tier 1 (3) <b>15 (or 16) Credit Hours</b>	Computational Biology (COMP 383) (4) [Spring only] Quant. Bioinformatics (STAT 337) <sup>13</sup> (3) [Spring only] CORE: Artistic Knowledge and Experience (3) CORE: Literary Knowledge & Experience Tier 2 (3) CORE: Theology and Religious Studies Tier 2 (3) <b>16 Credit Hours</b>

<sup>1</sup> May substitute with CHEM 105; <sup>2</sup> May substitute with MATH 161; <sup>3</sup> May substitute with CHEM 106; <sup>4</sup> May substitute with MATH 162; <sup>5</sup> May substitute with CHEM 221; <sup>6</sup> May substitute with COMP 170 (offered fall, spring and summer); <sup>7</sup> May substitute with CHEM 221; <sup>8</sup> Language competency required at the 102 level by course or [test](#); <sup>9</sup> May substitute with Metagenomics (BIOL 392) (fall only); <sup>10</sup> 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); <sup>11</sup> May substitute with Proteomics (CHEM 365) (spring odd years only); <sup>12</sup> Choose 2 of 3: (1) Exploring Proteins (BIOI 365) or Proteomics (CHEM 365), (2) Machine Learning (COMP 379) [Fall only] or Database Programming (COMP 353), (3) Molecular Biology Lab (BIOL 390); <sup>13</sup> 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.