Curriculum - Computational Life Sciences, Certificate

Catalog Year: 2026 - 2027

College/School: The College of Liberal Arts and Sciences

Plan Code: LACLSICERT

Requirement	Minimum Grade	Credit Hours
The certificate in computational life sciences requires 15 upper division credit hours. A minimum of six upper-division credit hours must be taken from The College of Liberal Arts and Sciences. When selecting courses, the college offering the course can be identified by viewing the course details in Class Search. Only courses completed with a grade of "C" (2.00 on a scale of 4.00) or better can be used to satisfy certificate requirements.		
Upper Division Ethics or History Course **BIO 312 / PHI 320 Bioethics (HUAD)** **BIO 316 / HPS 330 History of Biology: Conflicts and Controversies (HUAD)** **BIO 317 / HPS 323 History of Science II (HUAD)** **BIO 318 / HPS 331 History of Medicine (HUAD)** **BIO 416 / HPS 410 Biomedical Research Ethics (CIVI)**	C	3
Upper Division Computational Course **BIO 439 Computing for Research** **BIO 440 / MBB 440 Functional Genomics** The computing course not used toward the core requirements in this section may be used toward the elective credit hours below.	C	3
Upper Division Electives List **BIO 355 / MAT 355 / MBB 355 Introduction to Computational Molecular Biology**	C	9

Requirement	Minimum Grade	Credit Hours
BIO 411 Quantitative Methods in Conservation and Ecology		
BIO 415 Statistical Models for Biology (QTRS)		
BIO 439 Computing for Research		
BIO 440 / MBB 440 Functional Genomics		
BIO 479 Data Analysis and Visualization in R		
BIO 494 Topic: Computational Genomic Analysis		
BIO 494 Topic: Data Analysis in Neuroscience		
BIO 498 Topic: Programming for biologists		
BME 494 Topic: Systems Biology of Disease		
BMI 311 Biomedical Artificial Intelligence		
BMI 312 Health Data Mining		
BMI 330 Topics in Translational Bioinformatics		
DAT 301 Exploring Data in R and Python		
GIS 469 Multivariate Statistics for Social Sciences		
GIS 471 Spatial Statistics for Geography and Planning		
MAT 353 Mathematics and Cancer		
MAT 451 Mathematical Modeling		

Notes

Prerequisite courses may be needed in order to complete the requirements of this certificate.

General Studies designations listed next to courses were valid for the 2026 - 2027 academic year. Please refer to the course catalog for current General Studies designations at time of class

registration. General Studies credit is applied according to the designation the course carries at the time the class is taken.