

Bioinformatics - Bioinformatics Technician

Associate in Applied Science

Minimum of 64 Credits

Bioinformatics involves analyzing the vast amount of raw genomic and proteomic data generated in the last decade through the Human Genome Project and other work. Bioinformatics professionals create databases and software applications that house this information and allow scientists to access and use this data. Biologists, biochemists, pharmaceutical researchers, and bio-engineering researchers/corporations use bioinformatics databases in the course of their research and product development.

This program will provide students with the background in biology, biotechnology, mathematics, and information technology that they will need to help create/maintain bioinformatics databases and manipulate the data contained therein.

Course #	Course Name	Credits	Type	Prerequisites
Suggested Freshman 1st Semester				
SCL 1001	SUCCESS IN COLLEGE AND LIFE	1	Life Skills	None
ENGL 1113	ENGLISH COMPOSITION I	3	Gen Ed	(R) (W), Adequate reading and writing assessment scores or LS 0033 College Writing II, either taken within the last year, with strong encouragement for immediate continuation.
HIST 1483	U.S. HISTORY TO THE CIVIL WAR --OR--		Gen Ed	(R) (W)
HIST 1493	U.S. HISTORY SINCE THE CIVIL WAR	3	Gen Ed	(R) (W)
BIO 2343	GENETICS AND MAN	3	Gen Ed	(R) (W) (M)
CHEM 1115	GENERAL CHEMISTRY I	5	Gen Ed	(R) (W), MATH 1513 or MATH 1533 or both MATH 0123 and High School Chemistry or CHEM 0123 or CHEM 1123
BIOT 1022	MEDIA AND SOLUTION PREPARATION	2	Major	(W) (M), College biology, CHEM 1115; Corequisite: BIO 2125
Suggested Freshman 2nd Semester				
ENGL 1213	ENGLISH COMPOSITION II --OR--		Gen Ed	(R) (W), ENGL 1113 English Composition I taken within the last year, with strong encouragement for immediate continuation.
ENGL 1233	REPORT WRITING	3	Gen Ed	(R) (W), ENGL 1113 English Composition I
CS 1143	BEGINNING PROGRAMMING	3	Major	(R) (W) (M) or Evaluation by Instructor
BINFO 1011	INTRODUCTION TO BIOINFORMATICS	1	Major	(R) (W) (M)
BIO 2203	* CELL BIOLOGY	3	Major	(R) (W) (M), Four credit hours of General Biology or higher biology course, and any college level chemistry course.
BIOT 2823	BIOTECHNOLOGY LABORATORY I	3	Major	(W), MATH 2013 or MATH 1513, BIOT 1022; Corequisite: BIO 2343, CHEM 1215
MATH 2013	INTRODUCTION TO STATISTICS	3	Support	(R), MATH 0123 or equivalent or adequate Math Placement Test Score, either within the last year.
Suggested Sophomore 1st Semester				
CS 1333	DATABASE MANAGEMENT APPLICATIONS	3	Support	(R)
BINFO 2013	BIOINFORMATICS TOOLS AND DATABASES	3	Major	(R) (W) (M), BINFO 1011 Introduction to Bioinformatics, MATH 2013 Introduction to Statistics
CHEM 1215	GENERAL CHEMISTRY II	5	Support	(R) (W), CHEM 1115 and either MATH 1513 or MATH 1533. A grade of "C" or better in CHEM 1115 is strongly recommended.
BIOT 2843	* ADVANCED NUCLEIC ACID LABORATORY	3	Major	(W) BIOT 2823
CS 2163	JAVA	3	Major	(R) (W) (M), CS 1143 or Evaluation by Instructor
Suggested Sophomore 2nd Semester				
CS 2173	ORACLE --OR--		Major	(R) (W) (M), CS 1143 or Evaluation by Instructor
CS 2443	SQL SERVER	3	Major	(R) (W) (M), CS 1143 or Evaluation by Instructor
BIOT 2933	BIOTECHNOLOGY LABORATORY II	2	Major	(W) (M), BIOT 2823
CS 2183	LINUX	3	Major	(R) CS 1143 or Evaluation by Instructor
BINFO 2113	BIOINFORMATICS PROGRAMMING IN PERL	3	Major	(R) (W) (M), BINFO 2013 Bioinformatics and Databases
POLSC 1113	AMERICAN FEDERAL GOVERNMENT	3	Gen Ed	(R) (W)
Suggested Sophomore Summer Semester				
	BIOINFORMATICS PRACTICUM	3	Major	(R) (W) (M), BINFO 2013 Bioinformatics and Databases, BINFO 2113 Bioinformatics Programming in PERL

Major Courses: (27 credit hours): Biotechnology: BIOT 2823; BIOT 2932; Bioinformatics: BINFO 1011; BINFO 2013; BINFO 2113; BINFO 2213; Computer Science: CS 1143; CS 2163; CS 2173; CS 2183; CS 2443

General Education Courses: (20 credit hours) English: ENGL 1113; ENGL 1233 or ENGL 1213; History: HIST 1483 or HIST 1493; Political Science: POLSC 1113; Biology: 2343; Chemistry: CHEM 1115

Life Skills Courses: (1 credit hour) Life Skills: SCL 1001

Support Courses: (16 credit hours) Biology: BIO 2125; BIO 2203; Computer Science: CS 1333; Mathematics: MATH 2013; Biotechnology: BIOT 1022

Notes: This technical/occupational program is designed to prepare students to enter the job force following completion. See Technical/Occupational Programs in the general information section of the catalog.