

BIOINFORMATICS CERTIFICATE (GRADUATE)

Overview

The Certificate in Bioinformatics provides students with skills to describe, distinguish, and apply the fundamental concepts, principles, and methodologies used in bioinformatics; implement the basic concepts of bioinformatics in relevant software (SQL, R, Python, and MATLAB); critically analyze and understand the computational methods presented in modern bioinformatics literature; conduct data analysis using big biological data; and assess the intersection of bioinformatics and health care systems and practices.

The certificate is designed for professionals with various backgrounds, including biological sciences, bioinformatics, biomedical informatics, computer sciences, health informatics, mathematics, statistics, and biostatistics, public health, and biomedical engineering. This certificate program will also be appropriate for students in the Tulane University School of Medicine, School of Public Health and Tropical Medicine, School of Science and Engineering, as well as professionals working tangentially in health care (e.g. JD).

Requirements

The core curriculum emphasizes biomedical applications of data science and big data knowledge. This program consists of four courses, two of which are core courses and two of which are selected from a group of five possible options. Upon completion of the certificate program, students will have to complete 12 credit hours of coursework. If students wish to pursue their studies further, only 3 credit hours can be shared between the certificate and the degree program.

Course ID	Title	Credits
Required Core Courses		
BIMI 6300	Fundamentals of Data Analytics	3
BIMI 7100	Statistical Machine and Deep Learning in Biomedical Practice	3
Two more courses shall be taken from the following five:		6
BIMI 6200	Introduction to Data Science for Biomedical Informatics	
BIMI 7300	Biomedical Data Science with Cloud Computing	
BIMI 7500	Genomic Sequence and Omics Data Analysis	
BIMI 8550	Computational Biology: Structure and Organization	
BIMI 8600	Advanc Data Sci Ana Tech	
Total Credit Hours		12

Program String and Field of Study: MDCER_GR, CBIB

This program was added to the catalog as an addenda on September 15, 2026.

Contact

For more information, contact the School of Medicine (<https://medicine.tulane.edu/deming-medicine/biomedical-informatics-genomics-division/contact>).