Undergraduate minor in Genomics and Bioinformatics

Interested in learning to answer biological questions using computers? Wondering how genomic data can help us understand applications ranging from medicine to conservation?

UT Tyler now offers an undergraduate minor in Genomics and Bioinformatics. The goal is to help students merge knowledge from biology and computer science classes while learning skills that are transferrable to many different professions. Students who take the series of courses listed below will become proficient in asking and answering questions using large biological datasets.

Research and practical applications of bioinformatics and genomics include the following areas: disease transmission/epidemiology, pharmaceutical development, personalized medicine, antibiotic resistance, agricultural crop improvement, forensic analysis, and many more!

Classes required for the minor include the following:

BIOL 1306*	General Biology I
BIOL 1106*	General Biology I Laboratory (co-requisite for BIOL 1306)
BIOL 1307*	General Biology II
BIOL 1107*	General Biology II Laboratory (co-requisite for BIOL 1307)
BIOL 3329	Genomics
BIOL 4306	Bioinformatics
BIOL 4106	Bioinformatics Laboratory (co-requisite for BIOL 4306)
COSC 1436*	Programming Fundamentals
COSC 1437*	Object-Oriented Paradigm
COSC 2336	Data Structures and Algorithms (note: MATH 2330 is a pre-requisite)

Courses marked with an asterisk (*) may be included as part of University Core or are a required course for some majors. Check the UT Tyler program and course catalogs for complete listings of course pre-requisites.

You do not need to declare the minor to take the courses listed above. Two classes, bioinformatics and genomics, were developed especially for the minor and represent the fundamental content of the minor. These courses will compliment the knowledge gained in other classes by allowing you to think critically and solve important problems using genomic data.

You can learn more about topics and careers in bioinformatics and genomics here:

- A brief guide to genomics
- Careers in bioinformatics
- TED talks
  - Meet your microbes by Jonathan Eisen
  - Genomics 101 by Barry Schuler
  - Welcome to the genomic revolution by Richard Resnick
  - The life code that will reshape the future by Juan Enriquez
  - On the verge of creating synthetic life by Craig Venter