# Special Topics in Biomedical Engineering #1

**Ankara University
Department of Biomedical Engineering**

# Bioinformatics

- Bioinformatics is an interdisciplinary field that develops methods and software tools for understanding biological data.

- As an interdisciplinary field of science, bioinformatics combines computer science, statistics, mathematics, and engineering to analyze and interpret biological data.

# Bioinformatics

- Bioinformatics has been used for in silico analyses of biological queries using mathematical and statistical techniques.

- Bioinformatics is both an umbrella term for the body of biological studies that use computer programming as part of their methodology, as well as a reference to specific analysis "pipelines" that are repeatedly used, particularly in the field of genomics.

# Bioinformatics

- Common uses of bioinformatics include the identification of candidate genes and nucleotides (SNPs).

- Often, such identification is made with the aim of better understanding the genetic basis of disease, unique adaptations, desirable properties, or differences between populations.

- Bioinformatics also tries to understand the organisational principles within nucleic acid and protein sequences, called proteomics.