Course description: With exploding healthcare costs, greater longevity and the widespread health challenges of diabetes, obesity, cancer and cardiovascular disease, medicine and healthcare will be a primary scientific and economic focus for the remainder of this century. Informatics and big data promise an understanding of health, disease and treatment on a scale never before imagined. This course will address the big data techniques that are being used in the drug discovery, healthcare and translational medicine domains. Some specific topics covered will include large-scale, integrated molecular datasets; cheminformatics and bioinformatics in a big data domain; storing and data mining of electronic medical records; visualization and mapping of diseases; bridging the clinical and molecular; smart devices for smart health; and data mining for healthcare economics.

Course Website (currently in development)

Data Science topics:

- Data integration
- Data mining
- Semantic technologies Machine learning Association prediction Visualization