

CHEMISTRY

Identifies existing compounds that have anti-cancer activity

Characterizes the physical and structural properties of these compounds

Understands the fundamental biological reactions that these compounds either promote or inhibit

Designs and synthesizes new compounds with enhanced anti-cancer activity

PHYSICS

Uses an understanding of fundamental interactions to enhance diagnostic tools, such as MRI

Determines how fundamental forces and interactions affect biological processes

BIOLOGY

Characterizes how biological systems function at the cellular level

Determines the fundamental biological pathways that are altered by cancer

Identifies genes that play a role in cancer

CHEMICAL ENGINEERING

Develops methods to increase drug purity

Designs and develops chemical processes to deliver precise drug doses to patients

Develops efficient processes for the mass production of existing drugs