1. Master a broad set of physical principles that form the basis of the physics discipline (topics include classical mechanics, electromagnetism, quantum mechanics, and statistical mechanics).

2. Apply the computational and mathematical tools required to analyze and solve physics problems and experiments.

3. Design, implement, analyze & evaluate experiments demonstrating a broad range of physical principles.

4. Apply the tools & content learned in their Physics courses to complex & unique real world problems.

5. Comprehend scientific data and to produce scientific writing and to orally present scientific data and other scientific information.