ENGINEERING SCIENCE AND MECHANICS

Learning Outcomes

1. Know: Graduates will demonstrate an in-depth knowledge of the core theories and methods within one or more sub-specialties in the fields of engineering science and mechanics. The core demonstration will include the application of physics, advanced mathematics and engineering principles to problems in mechanics, materials, bionanotechnology, nanoscience and neuroscience.
2. Create: Graduates will be able to synthesize theory, literature and experimental results to generate new concepts, designs or hypotheses in engineering science and mechanics.
3. Apply: Graduates will be able to carry out independent and original research studies that address current problems in the multi-disciplinary field of engineering science and mechanics.
4. Communicate: Graduates will be able to convey ideas or arguments in clear, concise, well organized papers and proposals as well as in formal, oral presentations.
5. Critical Thinking: Graduates will be able to critically analyze work by others in their field of specialty.
6. Professional Practice: Graduates will demonstrate the ability to collaborate in a collegial and ethical manner with other professionals within their field and/or with diverse scientific backgrounds.