MATERIALS SCIENCE AND ENGINEERING

Learning outcomes

Master of Science (M.S.)

1. KNOW: Demonstrate appropriate breadth and depth of fundamental knowledge in materials science and engineering.

2. THINK: Review and critically analyze the ideas of other scientists and engineers, especially those addressing problems closely related to their own research.

3. APPLY/CREATE: Apply the scientific method using laboratory, computational and/or theoretical techniques to create new knowledge in material science and engineering or to design new materials.

4. COMMUNICATE: Effectively communicate unanswered questions about materials in writing and oral presentations; express the scientific and societal impact of their work; and disseminate new knowledge through archived publications, such as articles and theses.

5. PROFESSIONAL PRACTICE: Employ the highest ethical and professional standards, and the best practices in laboratory safety, in all research and academic endeavors.

Doctor of Philosophy (Ph.D.)

1. KNOW: Demonstrate appropriate breadth and depth of fundamental knowledge in materials science and engineering.

2. THINK: Review and critically analyze the ideas of other scientists and engineers, especially those addressing problems closely related to their own research.

3. APPLY/CREATE: Apply the scientific method using laboratory, computational and/or theoretical techniques to create new knowledge in material science and engineering or to design new materials.

4. COMMUNICATE: Effectively communicate unanswered questions about materials in writing and oral presentations; express the scientific and societal impact of their work; and disseminate new knowledge through archived publications, such as articles and theses.

5. PROFESSIONAL PRACTICE: Employ the highest ethical and professional standards, and the best practices in laboratory safety, in all research and academic endeavors.