

**Reviewed and Modified By Advisory board and Student Advisory Board 2007-2008
Approved Spring 2008**

Program Educational Objectives Statements

1. Prepare graduates for **engineering careers and advanced education**
 - Graduates will be able to perform as competent entry-level engineers in a range of industries.
 - Select graduates with the ability and desire will be able to perform as competent graduate students in a range of graduate programs (including engineering, business, medicine, law or other related fields).
2. Graduate mechanical engineers with **technical skills**
 - a. Demonstrate a grasp of engineering knowledge
 - Mastery of fundamentals - Mathematics and science-based knowledge (Thermal/Fluids, Dynamics, etc)
 - Knowledgeable in engineering specialty topics (Materials, Manufacturing, etc.)
 - Proficient in learning, using, and understanding technology, resulting in a solid foundation for life-long learning
 - b. Demonstrate an ability to apply knowledge to solve contemporary engineering problems
 - Solve open-ended problems
 - Formulate and articulate the problem to be solved, develop requirements, gather data, determine root cause if appropriate and synthesize solutions.
 - Differentiate between and work in situations that require evolutionary design (use of standard parts, standard processes, and engineering standards) and revolutionary ideas (innovation and creativity)
3. Graduate mechanical engineers with **skills to perform in the work environment, including:**
 - Safety and health: (for example awareness of Material Safety Data Sheets (MSDS), use of personal protective equipment, Design for Safety methods, ...)
 - Technical communication: Oral and written
 - Teamwork
 - Project management: planning, scheduling, budgeting
 - Self evaluation, leading to improvement
 - Awareness of international standards, quality standards, and systems of units
 - Appreciation of engineering integration with business (market awareness, customer satisfaction, quality, continuous improvement, profit, mission / vision / core values, ...)
 - Ethical and effective decision making, involving environmental health and safety, economics, time, quality, performance / operability, and reliability / life.
4. Graduate mechanical engineers who are **informed and aware** of contemporary issues and the impact of engineering on society