Mechanical Engineering

NAU Yuma Campus

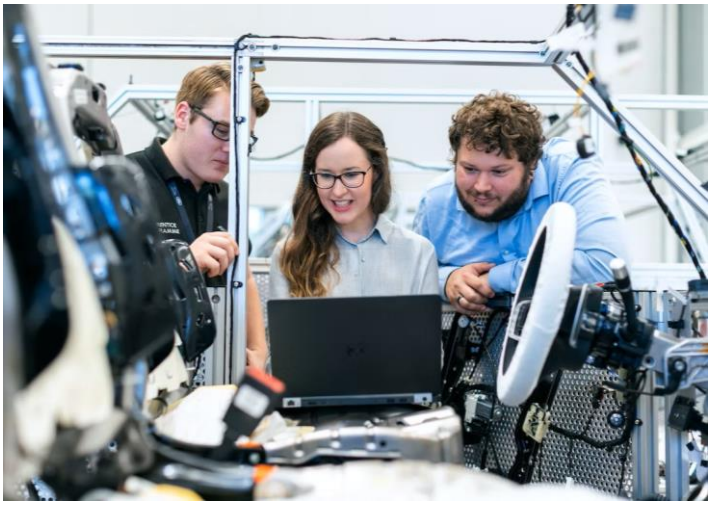
Purpose Statement

Mechanical engineering is a diverse and broad discipline of engineering that applies the principles of mathematics, physics, and science for the analysis, design, manufacturing, and maintenance of mechanical systems. It is the branch of engineering that involves the production and usage of heat and mechanical power for the design, production, and operation of machines and tools. It is one of the oldest and broadest engineering disciplines. This exciting engineering field requires a solid understanding of core concepts including solid mechanics, fluid mechanics, kinematics, thermodynamics, heat transfer, materials science, and structural analysis to name a few. Mechanical engineers use these core principles along with tools like computer-aided engineering and product lifecycle management to design and analyze manufacturing plants, industrial equipment and machinery, heating and cooling systems, automobiles, space vehicles, aircraft, watercraft, robotic devices, wind turbines, medical devices, and much more.

Bachelor of Science

Student Learning Outcomes:
Upon completion of the degree, students will have the ability to:

1. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. Communicate effectively with a range of audiences.
4. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. Acquire and apply new knowledge as needed, using appropriate learning strategies.



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