# **STOCKTON** | SCHOOL OF NATURAL

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## Physics Program | PHYS ABOUT THE PROGRAM

Stockton's **Applied Physics program** is designed to appeal to students interested in studying physics, engineering, and energy studies. Emphasis is placed on the application of physics both to physical theory and experiments, as well as general problem-solving techniques. Upper-level students engage in independent research projects under the guidance of physics faculty.

Physics students from Stockton participate in internships and Research Experiences for Undergraduates all over the country, including the local FAA Technical Center, national labs, and other universities. Upon leaving Stockton, physics students go on to graduate school, industry, government, and teaching jobs.

Stockton physics students also find success in going on to related fields such as medicine, economics, engineering, electronics, communication technology, and transportation technology, among others.

#### **Research areas in Physics**

- Acoustics
- Biomedical physics
- Biomechanics
- Computational physics
- Energy studies
- Climate Physics
- Networks
- Nuclear physics
- · Physics education

#### Program Requirements

In addition to the University's general education requirements, Applied Physics majors are expected to complete the following courses.

The BS requires 80 credits in Core Courses. The BA requires 64 credits in Core Courses. These courses include:

- Physics I, Physics II, Physics III with labs, Computational Mechanics, Electricity and Magnetism, Thermal Physics, Mathematical Methods, Electric Circuits, Optics, Quantum Mechanics, Mechanics of Materials
- Calculus I, Calculus II, Calculus III, Linear Algebra, Differential Equations
- Research Methods, Physics & Engineering Colloquium
- · Senior Project

A five-year dual-degree engineering option with Rutgers University, Rowan University or with the New Jersey Institute of Technology (NJIT) is available to physics (and other) majors. Under this option, the physics major normally spends the first three years at Stockton and the last two years at Rowan, NJIT, or Rutgers. The B.S. degree in Applied Physics from Stockton is awarded after the fourth year, and the B.S.E. degree from the secondary institution a year later.

#### The Engineering degree for the physics major could be in one of six areas:

- · Electrical Engineering
- Mechanical Engineering
- Computer Engineering
- Industrial Engineering
- Manufacturing Engineering
- Engineering Science

#### FOR ADDITIONAL INFORMATION Dr. Joseph Trout, Physics Program Chair

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