

# DEPARTMENT OF PHYSICS AND ENGINEERING

## Mission Statement

The Physics and Engineering Department at PLNU provides strong programs of study in the fields of Physics and Engineering. Our students are well prepared for graduate studies and careers in scientific and engineering fields. We emphasize a collaborative learning environment which allows students to thrive academically, build personal confidence, and develop interpersonal skills. We provide a Christian environment for students to learn values and judgment and pursue integration of modern scientific knowledge and Christian faith.

## Physics Program Educational Objectives:

- To prepare students for graduate studies in physics.
- To prepare students for a career in research or teaching.
- To prepare students for employment in various fields of applied physics.

## Engineering Program Educational Objectives:

The Engineering degree from Point Loma Nazarene University is designed to provide a foundation for productive engineering practice. Our recent graduates will engage in:

- Problem Solving and Continuous Learning: Applying critical thinking and principles from engineering, science, and mathematics to identify customer-centric solutions to complex problems, while fostering a commitment to the lifelong learning necessary to be an effective engineer.
- Sustainable and Ethical Practices: Designing and implementing safe, sustainable, and practical engineering solutions that economically address societal needs while considering global and ethical implications of their work.
- Collaboration and Communication: Working effectively in multidisciplinary teams to understand the big picture and their role in the project, while demonstrating leadership, professionalism, and communication skills.

## Tradition of Excellence

The Department of Physics and Engineering offers an excellent education in a vibrant Christian setting. Caring and knowledgeable faculty engage students with one-on-one instruction and in smaller-sized classes. A number of our students gain practical work experience at Space and Naval Warfare Systems Command (SPAWAR) and engineering firms in the area. During the summer, our students participate in research on campus as well as at other undergraduate research programs around the country.

## Career Opportunities

Most Physics majors continue their education in graduate school and eventually become research scientists or teachers. The Engineering majors focus on electrical, mechanical, or computer systems. Graduates with this major have the option to attend graduate school or enter the job market in industry or government immediately after graduation. Point

Loma offers both a Bachelor of Science and a Bachelor of Arts in Physics as well as a Bachelor of Science in Engineering.

## Faculty

**Chair** - Maria Zack, Ph.D.

Michelle Chen, Ph.D.  
*University of Pennsylvania*

Anthony Cortez, Ph.D.  
*University of California, Riverside*

Paul Schmelzenbach, Ph.D.  
*Oregon State University*

Maria Zack, Ph.D.  
*University of California, San Diego*

To view requirements for majors, minors, and certificates, see the Degree Program Information (<https://pointloma-public.courseleaf.com/tug-catalog/degree-program-information/>) page.

- Engineering, B.S.E. (<https://pointloma-public.courseleaf.com/tug-catalog/colleges-schools-departments/cnss/phy/engineering-bse/>)
- Physics, B.A. (<https://pointloma-public.courseleaf.com/tug-catalog/colleges-schools-departments/cnss/phy/physics-ba/>)
- Physics, B.A. for Associates Degree Transfer (ADT) Students (<https://pointloma-public.courseleaf.com/tug-catalog/colleges-schools-departments/cnss/phy/physics-ba-adt/>)
- Physics, B.S. (<https://pointloma-public.courseleaf.com/tug-catalog/colleges-schools-departments/cnss/phy/physics-bs/>)
- Data Analytics Minor (<https://pointloma-public.courseleaf.com/tug-catalog/colleges-schools-departments/cnss/phy/data-analytics-minor/>)
- Physics Minor (<https://pointloma-public.courseleaf.com/tug-catalog/colleges-schools-departments/cnss/phy/physics-minor/>)