


# DEPARTMENT OF PHYSICS

“The professors in Physics encourage us to use their office hours to help understand difficult problems. Not only does this program encourage success in the classroom, but there is also a strong emphasis on undergraduate research to practice in the lab what we learn in the classroom.”

**Joe Milliano, Class of 2015**  
 Pursuing: Physics  
 Internships: Research in Truman’s MathBio program (Summer 2014) & Nuclear Fusion research at General Atomics in San Diego, CA (Summer 2015)  
 Achievements: Noyce Scholar (see description of this program on the right)  
 Hometown: St. Louis, MO

## Faculty

- Seven full-time faculty, all with PhD’s in Physics and a broad range of training and experience, including:
  - Post-doctoral work
  - Experience in industry
  - Ongoing research collaborations
  - Extensive travel
  - Undergraduate degrees from large and small institutions
- Faculty teach all introductory labs.

## Curriculum: Choose Your Own Path

- Choose the **Bachelor of Science** in Physics if you plan to continue your studies in Physics at a graduate school.
  - At Truman, you will study modern physics, electronics, classical mechanics, electromagnetism, statistical mechanics, and quantum mechanics, and conduct modern advanced experiments.
  - All BS Physics majors do research (some students even develop their own projects); students may choose theoretical, experimental or computational projects.
  - Interested in engineering? You have two options:
    - Physics/Engineering Dual Degree program (More information at [truman.edu/physicsengineering-dual-degree/](http://truman.edu/physicsengineering-dual-degree/))
    - Pre-Engineering program (More information at [truman.edu/pre-engineering/](http://truman.edu/pre-engineering/))
- Choose the **Bachelor of Arts** in Physics if you desire a strong training in physics with the flexibility of pursuing another subject in depth. With a strong focus on critical thinking, problem solving, and the ability to work and learn independently, the BA in Physics prepares students for many career paths such as law or medical school, secondary school teaching, or engineering.
  - **Noyce Scholars Program:** Double major in Physics and Mathematics, then pursue Truman’s Master of Arts in Education (MAE). If you plan to teach physics and math at the high school level, you can apply for our Noyce Scholars Program, which provides scholarships for undergraduate junior and senior years and one year of graduate school.



“Truman physics faculty are here to help our students understand how the world works—to do the math, to poke at things in the lab, and to see how amazing it all is.”

**Dr. Taner Edis**  
 Professor of Physics

## Research

- Work closely with faculty mentors on theoretical, experimental, or computational research projects. Present your findings at Truman’s Student Research Conference, state-wide or national conferences.
- Engage in research with a faculty mentor. There are ample opportunities! Research is a requirement of the BS degree, and it culminates with a presentation at a local, state, or national professional conference. Physics majors also take advantage of Research Experience for Undergraduates (REUs) sites at various universities and national labs.
- Recent and current student projects include:
  - Construction of a numerical action minimizer
  - Diode laser atom trap
  - Magnetic damping by eddy currents
  - Modal characteristics of clarinet reeds
  - Nonlinear dynamics and chaos
  - Propagation of surface elastic waves
  - Ultrasonic studies of tissue

## Facilities

- Advanced laboratory course includes individual experiments and projects.
- Physics-dedicated computer lab with physics-specific software; some introductory level labs are computer-based.

## After the Degree

- Benefit as an alumni from the competitive and supportive academic environment at Truman. Employers seek you out! Here is where some alumni have ended up after graduation:
  - **Graduate school in Physics at:**
    - Massachusetts Institute of Technology
    - Northwestern University
    - Penn State University
    - University of California-Santa Cruz
    - University of Maryland
    - University of Michigan
    - University of Missouri-Columbia
    - University of West Virginia
    - Washington University
    - Yale University
  - **Other graduate programs at:**
    - Applied Math at Purdue University
    - Chemistry at University of Chicago
    - Medicine at Kirksville College of Osteopathic Medicine
    - Materials Science at the University of Virginia
    - Meteorology at the University of Colorado-Boulder
  - **Employment and other training:**
    - Naval oceanographic research
    - AutoCAD design
    - Jesuit priesthood
    - Secondary and college science teaching

## Gain a Greater Understanding of the Universe, Apply it to Life

Pursue a rigorous training in the theories and practice of physics. Think independently and critically. Work with modern technology and equipment in a competitive and supportive academic environment.

With Truman’s 16:1 student-to-faculty ratio, you will work closely with professors — not graduate teaching assistants — in intimate classes and labs. With an average of 6 to 12 students in physics classes beyond the introductory level, you won’t get lost in the large lecture halls typical of large universities.

After you complete your Physics program, you will be ready to teach, compete for top grad schools, or enter the workforce as a researcher, engineer or beyond.

Use your knowledge of physical realities to create a life that matters.

[PHYSICS.TRUMAN.EDU](http://PHYSICS.TRUMAN.EDU)

SCHOOL OF SCIENCE AND MATHEMATICS

**PURSUING PHYSICS**

DEGREES OFFERED	BA	MAJOR OFFERED	Physics
	BS	MINOR OFFERED	Physics

50% of majors do an internship

80 approximate number of students pursuing this major

100% of majors engaged in research

7 full-time faculty members | 1 part-time faculty member

100% of faculty members have a terminal degree in the field

DEPARTMENTAL STUDENT ORGANIZATIONS  
 Society of Physics Students, Sigma Pi Sigma, Women in Physics, Stargazers Astronomy Club