



PRE-ENGINEERING

Program site: <http://www.stetson.edu/artsci/physics/preeng.php>

All accredited engineering schools require their first- and second-year students to take a relatively standard set of mathematics and physics courses that are commonly referred to as pre-engineering courses. Stetson University's undergraduate pre-engineering program, housed in the Physics Department, prepares students for further study in engineering at either an undergraduate or graduate level. Students on a pre-engineering path receive a solid foundation in math and physics and also benefit from the liberal arts curriculum that emphasizes on critical thinking and communication skills.

An individualized pre-engineering curriculum is based on a student's interests and goals. Students take the math and science courses necessary to excel in an advanced engineering program at a school with engineering programs.

Faculty

The Physics Department has four physicists on the faculty. They are:

- George Glander, Ph.D., University of Wisconsin-Madison, who specializes in surface science - low energy electron diffraction
- Anthony Jusick, Ph.D., University of Florida, an authority in space and atmospheric physics
- Thomas Lick, Ph.D., Ohio University, who specializes in the luminescence of insulators and electron paramagnetic resonance
- Kevin Riggs, Ph.D., University of Minnesota, a specialist in the magnetic properties of thin films and musical acoustics

Faculty members maintain open office hours and encourage students to drop by any time to discuss physics, their coursework, career goals, or any other concerns.

Special Features

Pre-Engineering students build a solid liberal arts foundation at Stetson which prepares them for advanced engineering courses at a professional school. Class sizes are small, and the faculty maintain open office hours and are available for personal attention.

With Stetson's Pre-Engineering Program, students can choose among several options:

- After completing their first two years of foundational courses at Stetson, a student can transfer to an engineering school to complete a course of study over the succeeding two or three years.
- Or, students can choose to pursue the dual-degree program by spending the first three years at Stetson taking fundamental pre-engineering courses and enhancing their liberal arts background. Students who select the dual degree option major in physics then transfer to an engineering school to complete their work for a degree. At the end, you will have a bachelor's degree from Stetson in addition to your bachelor's degree in engineering.
- Finally, some students remain at Stetson to earn a Bachelor of Science degree and then pursue their engineering interests in graduate school.

Whatever option you choose, you will have hands-on experience in state-of-the-art laboratories, actually using equipment you might just look at or read about at a larger school. A Senior Project is also required. An undergraduate student interested in research also has the opportunity to participate in faculty research projects or off-campus summer internships.

Course Information

During their first and second years, pre-engineering students at Stetson take the same standard physics and mathematics courses as their counterparts at large engineering schools. The math courses cover differential, integral and multivariable calculus, and differential equations. Physics courses include surveys of classical and modern physics,

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Full Time Faculty: 4

Degrees Offered:

- Bachelor of Science in Physics
- Bachelor of Science in Mathematics
- Bachelor of Science in Chemistry
- Dual-degree program also offers a Bachelor's degree from the engineering school attended.

Our Graduates Attend:

- Washington University at St. Louis
 - University of Kentucky
 - University of Central Florida
 - University of Miami
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followed by an in-depth study of mechanics. Other courses are tailored to match a student's interest and preferred program.

Internship Opportunities

Students may apply for a Stetson Undergraduate Research Experience (SURE) grant that pays a stipend for students to do research during the summer. There are also several programs funded by federal agencies such as the National Science Foundation and the Department of Energy that pay students a stipend and travel expenses for them to do summer research internships at a variety of universities and national laboratories around the country.

Career Opportunities

Specialized areas include: civil, chemical, mechanical, structural and electrical.

Alumni Highlights

- Glenn Hudson (1998), B.S. Mechanical Engineering, University of Kentucky, B.S. Physics, Stetson University.
- Melissa Kastanias (1998), B.S. Physics, Stetson University. Melissa went on to pursue a Master's degree in mechanical engineering at Washington University in St. Louis, MO.

Clubs and Organizations

Society of Physics Students and Sigma Pi Sigma, the Physics Honor Society.

Awards

The George L. Jenkins Prize in Physics is awarded annually to the top student enrolled in the introductory physics course and is funded by the family of George L. Jenkins, former chair of the Physics Department.

The Jack Gibson Endowed Physics Research Award is presented annually to the student who demonstrates excellence in the senior project sequence. This award was established in 2008 by Physics Department alumnus Jack Gibson.