

# PHYSICS AND PRE-ENGINEERING

## COLLEGE OF ENGINEERING AND SCIENCE



### MAJORS

- Physics (BA)
- Physics (BS)
- Physics (BS) w/ a concentration in Computational Physics
- Physics (BS) w/ a concentration in Computational Biophysics
- Physics (BS) or (BA) Pre-Masters of Education

### MINORS

- Minor in Physics

### AFFILIATIONS

- Physics (BA) Pre-Engineering with University of Pittsburgh
- Physics (BA) Pre-Engineering with West Virginia University
- Physics (BA) Pre-Engineering with Youngstown State University
- Physics (BA) Pre-Engineering Tech with Youngstown State University

**SlipperyRock**  
University

A member of Pennsylvania's State System  
of Higher Education

EXPERIENCE THE DIFFERENCE

[www.sru.edu](http://www.sru.edu)

### WHAT CAN I DO WITH A PHYSICS DEGREE OR A PRE-ENGINEERING TRACK?

Are you considering a major in physics or pre-engineering? Slippery Rock University offers several programs of study that can lead to a wide range of career options in rapidly growing industries.

Why physics? Physics helps people understand how the world around them works. From subatomic particles to massive galaxies, robots to jet engines, and DNA to MRI scanners, physics can explain them all. If you have a passion for understanding how things work and enjoy hands-on scientific experiments, then a physics degree is for you.

Why pre-engineering? Would you like a career where no two days are alike? A career where you can use both technical skills and creative thinking to make a difference? A career that can allow you to travel the world while earning a good living? If you answered "yes" to any of those questions, then engineering might be the perfect field for you.

### PHYSICS AND PRE-ENGINEERING AT SRU

The faculty are committed to providing a hands-on educational experience through student-centered curricular and research experiences. In addition, we mentor and support our students to obtain external research and internship opportunities while preparing them for careers in industry, teaching or advanced degrees in physics, engineering or related fields.

As we serve our students and the broader community, we strive to hold to the following priorities:

- Everyone is important
- Our differences make us stronger
- Family comes first for students and faculty

**The physics major** provides students with broad exposure to experimental, mathematical, and computational techniques in small classes and labs. You will learn from a team of student-oriented faculty members who value the chance to get to know you and will guide you to achieve your career goals. Physics faculty are engaged in active research programs that cover a broad range of areas, including nanoscale materials, quantum devices, big data mining, and computational physics.

**The pre-engineering track** is a dual-degree cooperative program that enable students to pursue a career in engineering while experiencing the broader scope of an SRU education. These cooperative programs of study lead to two baccalaureate degrees: one in physics awarded by SRU and one in an area of engineering from one of three participating engineering schools: Pitt., WVU and YSU. Students can choose from aerospace, chemical, civil, computer, electrical, environmental, or mechanical engineering, to name a few.

### WHY CHOOSE PHYSICS AND PRE-ENGINEERING AT SRU?

1. Placement rate of 99 percent.
2. Relaxed environment with extensive faculty "face time."
3. Out-of-class opportunities including faculty-student research, internships, service learning, tutoring, and peer-mentoring.
4. Hands-on, student-centered teaching used at all levels.

## INTERNSHIP OPPORTUNITIES

SRU physics and pre-engineering students have completed internships and research experience for undergraduate programs at various institutions and businesses including:

- Carnegie Mellon University
- Georgia Tech University
- Rochester Institute of Technology
- PennDOT
- Westinghouse

## CAREER OUTCOMES

**Physics graduates:** A bachelor's degree in physics can lead to a variety of career opportunities, which includes pursuing a graduate degree in physics or a related field; a career as a high school physics teacher; or a career in the high-tech industry.

**Engineering graduates:** Recent engineering graduates are reaping the benefits of a flourishing job market in this growing field. During the next 10 years, engineering occupations are expected to grow faster than the average for all occupations.

## CLUBS AND ORGANIZATIONS

- Physics and Engineering Club
- SRU Chapter of Sigma-Pi-Sigma Physics Honor Society
- Robotics Club
- Auto Racing Club



## ALUMNI SPOTLIGHT

### **Kimberly Matsinger, Physics, '18** *Product Market Manager, Basler AG*

"Having achieved my B.S. in Physics from Slippery Rock University in 2018, I reflect upon my education fondly. The course work, opportunities for developmental study, and extracurricular mentorship gave me the skills needed to land a position in my field of study within 6 months of graduating. What makes SRU a truly unique place to study would be the attentive professors and compassionate staff; their genuine interest in education have helped set me up for success and provided me the knowledge and skills to excel in my career."

### **Timmy Samec, Computational Physics, '17** *Ph.D. in Bioengineering from Clemson Univ., '21* *Associate Scientist at Lovance Biotherapeutics*

"The department was everything I could have imagined and much more. The quality of teaching, faculty advisement and student camaraderie were second to none. My experience at SRU played an integral part in my personal and professional development, undergraduate success and continued academic pursuits."

### **Monte Chapman, B.S. Physics: Pre-Masters of Science in Secondary Education, '15, M.S. Secondary Education Slippery Rock University, '21** *Physics Teacher, West Boca Raton High School, Florida*

"My physics professor Dr. Mukherjee had a great impact on my experience at SRU. Although my schedule was often hectic because of Track, she made herself available to help me when I needed and helped me when content seemed to get very challenging."

## ACADEMIC CONTACT: FOR MORE INFORMATION:

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[www.sru.edu/majors](http://www.sru.edu/majors)

## ADMISSIONS OFFICE:

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