# COURSES:

# PHYSICS MAJOR:

12.75 course units, including:

University Physics I
University Physics II
Special Relativity
Modern Physics
Optics
Classical Mechanics
Electricity and Magnetism
Research in Physics
Quantum Mechanics
Senior Research in Physics

# Plus 4 allied courses:

MATH 1304 Calculus I MATH 1324 Calculus II MATH 2084 Differential Equations

MATH 2144 Calculus III

To become certified to teach physics, students must complete the following:

Physics Major Education Minor

# PHYSICS MINOR:

8 course units, including:

PHYS 2115 University Physics I PHYS 2125 University Physics II PHYS 2154 Special Relativity

# 2 electives

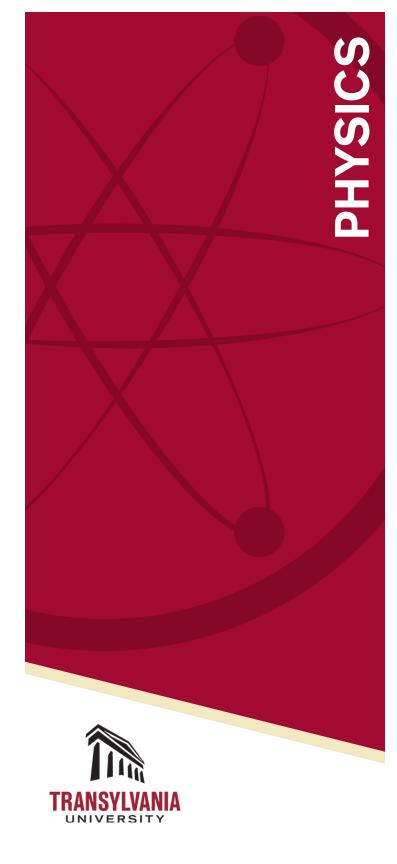
Plus 3 allied courses:

MATH 1304 Calculus I MATH 1324 Calculus II MATH 2144 Calculus III

# TRANSYLVANIA UNIVERSITY

# Office of Admissions

300 North Broadway Lexington, KY 40508 (800) 872-6798 transy.edu



#### ABOUT THE MAJOR:

Transylvania's physics program teaches students to describe nature mathematically by solving problems related to the physical world.

Studying physics at Transylvania offers decided advantages. Our students get one-on-one attention from professors, who set up and teach the student labs. The program also offers on-site research opportunities for all of our majors.

As a physics major, you will conduct a research project as part of a senior capstone experience. Preparation for this begins in your sophomore or junior year, when you will be paired with a senior in one of our labs. You will also be encouraged to participate in a summer research project at an outside lab.

#### PRE-ENGINEERING:

If your goal is to work in an engineering field, Transylvania offers two tracks to prepare for a career:

Transylvania has a unique partnership with the University of Kentucky College of Engineering that lets you take foundational engineering courses at UK while at Transy. You can start those courses as early as your sophomore year, and they will count toward your degree at Transylvania. The classes provide you with the necessary prerequisites for graduate study in engineering, and they won't cost you any extra—they're included in our tuition and fees.

Students must have a 3.0 cumulative GPA and sophomore standing to participate in the pre-engineering program, no matter your major. Our pre-engineering advisor will help you select your courses and prerequisites.

#### 3+2 DUAL-DEGREE ENGINEERING PROGRAM

You can receive both a B.A. degree from Transylvania and a B.S. degree in engineering from the University of Kentucky College of Engineering. This program requires three years of study at Transylvania and two additional years at UK.

# OPPORTUNITIES IN THE MAJOR:

Society of Physics Students Sigma Pi Sigma (national honor society)

#### COURSES OF SPECIAL INTEREST:

Quantum Mechanics Conceptual Physics Electricity and Magnetism Measuring the Universe Optics Special Relativity

### POSSIBLE CAREER OPTIONS:

Astronomer Engineer Professor Research Scientist Data Analyst

# WHERE OUR GRADUATES HAVE STUDIED:

Duke University
Old Dominion University
Tufts University
University of Kentucky
University of Pennsylvania
Vanderbilt University
University of Colorado Boulder
Ohio State University

# POSITIONS OUR GRADUATES HAVE HELD:

President and CEO, Westinghouse Electric Company Manager, Western Electric Company Physicist, NASA/Marshall Space Flight Center Professor, Wright State University Medical Physicist, Saint Joseph Health System

#### FACULTY:

Jamie Day, Professor of Physics; Program Director jday@transy.edu

# Mostafa Tanhayi Ahari

Associate Professor of Physics mtanhayi@transy.edu

<sup>&</sup>quot;A lot of our students have the upper hand once they get to graduate school because they've already been in the lab. At larger schools, most students wouldn't have had a chance to do this type of research."