



## GUIDE TO MAJORS AT YESHIVA: PHYSICS

Choosing a major can be stressful, but it is important to understand that you can pursue almost any career regardless of which major you choose. While there are some exceptions, most entry-level positions simply require general transferable skills—those that can be learned in one setting and applied in another. Relevant experience through internships and activities is generally more important to employers than a major. It is best to choose an area that you find interesting and where you have the ability to do well.

### What is the Physics Major?

According to the Physics Department web site: Physics studies fundamental properties of matter and thus is arguably the most basic of all sciences. The goal of the Physics Department at Stern College for Women is to expose students to the diversity of problems and problem-solving techniques that can be used far beyond the scope of the physical sciences. The department offers three majors: BA in physics, BA in physical sciences and BA in pre-engineering. Students majoring in physics gain the foundational knowledge of physics and mathematics, as well as experience in a number of modern research techniques. These skills are required for careers as diverse as scientific research, engineering, medicine and financial analysis. Students may also choose to pursue graduate studies in physical sciences or engineering. Physical sciences majors learn methods of solving different problems of the natural world. This major prepares students jobs in many technical fields, or they may choose to continue in a school of engineering or a graduate program in science or engineering. The major in pre-engineering is part of combined plans in engineering with Columbia University and The State University of New York at Stony Brook. Under these plans, the student completes a BA at Yeshiva University and a BS at Columbia University School of Engineering and Applied Sciences in five years or an MS in six years. The Stony Brook program allows students to obtain the BE or, in some cases, the ME in five years.

### What can I do with a Major in Physics?

For many students majoring in physics is the first step towards their career in science and research. Professional physicists are likely to join ranks of academia as professors at colleges or universities, join scientific staff of national laboratories, or become researchers at industrial companies. Those professions require advanced degrees obtained in graduate schools. Common career paths in Physics with a B.A. degree include such jobs as research group members in science and technology fields, as well as science teachers in schools. These professions also require additional post-graduate training.

The problem solving and analytical reasoning skills gained through a major in physics can also be applied to a wide variety of career areas including the physical sciences, research, law, medicine, and government. Some occupations to consider as physics major include:

#### Business

Computer Programmer  
Consultant  
Equity Research Analyst  
Information Systems Specialist  
Investment Banker  
Market Researcher  
Network Administrator  
Operations Manager

Operations Research Analyst  
Paralegal  
Product Developer  
Real Estate Developer  
Risk and Insurance Specialist  
Software Engineer  
Systems Analyst  
Technical Recruiter  
Technical Writer

Telecommunications Manager

### Social Service

Teacher  
Urban Planner  
Nonprofit Administrator  
Environmental Advocate  
Legislative Assistant

### Graduate Study Required

Architect  
Astronomer  
Engineer  
Lawyer  
Meteorologist  
Oceanographer  
Physician  
Professor  
Radiologist  
Researcher

### **Skills and Abilities**

Through the study of physics students strive to understand how things work. Physics students learn to think quantitatively and to develop strong analytical skills that are widely valued in many professions. The following list provides a sample of the potential skills acquired through the study of physics.

#### Analysis

- Interpreting information
- Evaluating ideas and theories
- Reasoning logically
- Thinking creatively
- Using quantitative analysis
- Assessing and solving problems

- Describing and evaluating issues
- Presenting thoughts, ideas, and information
- Writing in a clear concise manner

#### Research

- Conducting experiments
- Compiling research
- Making and assessing observations
- Organizing and interpreting scientific data

#### Communication

- Articulating and defending positions

### **Additional Information**

Yeshiva University offers several joint programs with various graduate schools for students interested in pursuing careers in engineering, health related fields, or education. For more information on programs in Education, Engineering, Optometry, Physical Therapy, Physician Assistant, and Podiatry please visit: <https://www.yu.edu/Advising/Stern-Academic-Advising/sheets>