



What can I do with a degree in ...

Engineering

The Department of Physics offers a spectrum of courses reflective of both the integral character of physics in the liberal arts curriculum and its essential role in engineering and technology, and which recognize that the discipline of physics is fundamental to the understanding of all natural phenomena. The courses offered have been designed to:

- Assist students in satisfying the general education requirement;
- Support the preparation of students majoring in biology, chemistry, computer science, mathematics, and engineering; and
- Prepare students for graduate study in physics.

Although the Department has a multipurpose role in the curriculum of the College, the primary objective is to prepare students for graduate study and ultimately successful careers in physics. The Department recognizes and accepts its responsibility to address the under representation of African-Americans in science and engineering. Historically, this has been and remains a foremost responsibility in our program.

Job Types

ANY ENGINEERING DISCIPLINE

Production
Sales and Marketing
Management
Consulting
Research and Development
Teaching
Law

Where to find them

Industry
Business
Federal, state, and local government
Colleges and universities

Ways to Prepare

- Obtain related experience through co-op or internships for business/industry-related career.
- MBA degree provides best opportunities in technical management.
- Obtain Ph.D. for optimal teaching and research careers.
- Develop strong verbal and written communication skills.
- Learn federal, state, and local government job application procedures.

Job Types

AEROSPACE

Propulsion
Fluid Mechanics
Thermodynamics
Structures
Celestial Mechanics
Acoustics
Guidance and Control

Where to find them

Aircraft, guided missile, and space vehicle industries
Communications equipment manufacturers
Commercial airlines
Federal government departments:
Defense and National Aeronautics and Space Administration (NASA)
Business and engineering firms

Ways to Prepare

Discipline uses cutting edge technology to deal with challenges of aeronautics, space, mass transportation, environmental pollution, and medical science.

- Keep abreast of status of federal funding for defense and space programs.
- Seek co-op opportunities.
- Develop effective verbal and written communication skills.
- Learn to work well within a team.

The Department offers programs of study in physics, applied physics, and a dual degree engineering program. The majors in physics and applied physics lead to the bachelor of science degree in these disciplines and the dual degree engineering program leads to a bachelor of science degree in an engineering field and a bachelors degree from Morehouse in a field dependent on the choice made by the student. Although the focus of the physics and the applied physics programs is preparation for graduate study in these fields, these programs provide excellent preparation for engineering.

Job Types

BIOSYSTEMS ENGINEERING

Natural Resources
Soil and Water Conservation
International Consulting
Environmental Control
Agricultural Structures
Power and Machinery
Electronic Systems
Food Engineering
Genetic Engineering
Engineering Technology

Where to find them

Technological agricultural industries
Land grant universities:
Experimental farm stations
Research laboratories
Consulting firms
Equipment design, testing, and manufacturing firms
Equipment and food industries including: processing, packaging, and storing
Quality control for food, feed, fiber, etc.
Biotechnology research firms
Foreign Service

Ways to Prepare

A broad, basic engineering discipline with a close relationship to the environment, food production, and agricultural productivity.

- Participate in internship or co-op programs.
- Acquire strong computer skills.
- Learn a foreign language for work in foreign Service.
- Develop strong math and problem solving skills.

Job Types

BIOMEDICAL

Bioengineering
Design
Development
Manufacturing
Medical Engineering
Instrumentation
Materials
Diagnostic/Therapeutic Devices
Artificial Organs
Medical Equipment
Rehabilitation Engineering
Bio-environmental Engineering

Ways to Prepare

Discipline combines engineering and human anatomy to develop and maintain medical and healthcare systems and equipment.

- Develop strong team work skills.
- Many positions require a graduate or professional degree.
- Serves as a good background for medical school.

Where to Find Them

Manufacturers of medical and surgical devices
Hospitals and healthcare facilities
Federal government:
Regulatory agencies
Veteran's Administration
National Institutes of Health
National Aeronautics and Space Administration
Industry
Research facilities of educational and medical institutions

Job Types

CHEMICAL

Administration
Design and Construction
Project Engineering
Control Systems
Field Engineering
Process Engineering
Operations/Production
Environmental and Waste Management
Development
Design

Where to Find Them

Independent research institutes
Consulting organizations
Chemical industry including:
Agricultural chemicals
Plastics
Industrial chemicals
Petroleum
Pharmaceutical
Cosmetic
Food processing
Atomic energy development
Environmental
Federal government including:
Department of Energy
Environmental Protection Agency
Manufacturing plants including automotive, air plane, paper, microelectronics, textiles, metals, rubber, food, and beverage

Ways to Prepare

Combines science of chemistry with discipline of engineering to solve problems and develop efficiency.

- Develop exceptional interpersonal skills.
- Acquire technical work experience during college years.

Job Types

CIVIL

Structural
Urban and Community Planning
Construction
Environmental
Water Resources
Transportation and Pipeline
Geotechnical
Photogrammetry, Surveying and Mapping
Materials

Where to Find Them

Construction industry
Engineering or architectural firms
Utility companies
Oil companies
Telecommunications businesses
Manufacturing companies
Consulting firms
Railroads
State and federal government agencies

Ways to Prepare

Broad discipline of “doers” providing service to the community through development and improvement. Works extensively with other professionals involved with the community. Provides opportunity to work outdoors.

- Learn to work well within a team.
- Develop strong communication and interpersonal skills.
- Develop physical stamina for outdoor work.
- Get experience in organizing and directing workers and materials.
- Ability to visualize objects in three dimensions is helpful.
- Demand has remained steady due to broad nature of discipline.
- States may require licensing or registration.

Job Types

ELECTRICAL/COMPUTER

Power Electronics
Power Systems
Communications
Electronics
Control Systems
Digital Signal Processing
Microelectronics
Image Processing & Robotics
Computer Engineering
Plasma Engineering
Computer Vision

Where to Find Them

Manufacturing firms and industry including:
Aeronautical/Aerospace
Automotive
Business machines
Professional and scientific equipment
Consumer products
Chemical and petrochemical
Computers
Construction
Defense
Electric utilities
Electronics
Environmental
Food and beverage
Glass, ceramics, and metals
Machine tools
Electrical/Computer, Continued
Mining and metallurgy
Nuclear
Oceanography
Pulp and paper
Textiles
Transportation
Water and wastewater
Public utilities
Federal government including:
Armed forces
National Aeronautics and Space Administration (NASA)
National Institutes of Health
Bureau of Standards
Department of Defense
Various commissions
Consulting firms
Free-lance consulting



Ways to Prepare

A field in touch with a wide and growing range of applications such as high speed and wireless communication, exploration of outer space, and a revolution in medical diagnosis and treatment.

- Develop effective verbal and written communication skills.
- Gain experience in team work.
- Acquire capacity for details.
- Develop interpersonal skills.
- Obtain research experience.

Job Types

INDUSTRIAL

Operations Research
Applied Behavioral Science Systems
Manufacturing Management
Information Engineering
Computer Systems Design and Development

Where to Find Them

Manufacturing industries
Accounting firms
Retail distribution organizations
Banks and financial institutions
Hospitals and healthcare organizations
Educational and public service agencies
Transportation industries
Construction industries
Public utilities
Electrical and electronics machinery industries
Consulting firms

Ways to Prepare

Discipline links management and operations by improving productivity through a “big picture” approach; serves human needs and works with people.

- Take courses in psychology, sociology and anthropology to learn more about people and how they behave.
- Earn an MBA for advancement in management or administration.

Job Types

MATERIAL SCIENCES & ENGINEERING

Metallurgy
Ceramics
Plastics/Polymers
Composites
Research
Extractive
Process
Applications
Management
Sales
Service
Consulting

Where to Find Them

Materials producing companies
Manufacturing companies including automobiles, appliances, electronics, aerospace equipment, machinery, medicine
Service companies including airlines, railroads, and utilities
Consulting firms
Government agencies:
Department of Defense
National Aeronautics Space Administration (NASA)
Research institutes
Publishers

Ways to Prepare

Studies properties of various types of materials and how they are made and behave under different conditions.

- Many positions require a graduate degree.
- Some areas benefited by additional study in business administration, medicine, management and/or law.
- Develop good communication skills.
- Gain laboratory and research experience as an undergraduate.

Job Types

MECHANICAL

Mechanical Power Generation
Internal Combustion Engines
Jet Engines
Steam Power Plants
Rockets
Energy Utilization and Conservation
Thermal/Fluids
Thermodynamics
Environmental Control
Refrigeration
Instrumentation and Control
Machine Sciences
Mechanical Design
Manufacturing and Production
Robotics
Operation and Maintenance

Where to Find Them

Transportation
Automotive industry, aerospace industry, military laboratories
Utilities
Steam driven electric power stations
Equipment Design
Plants
Nuclear power stations
Electronics industry
Petro-Chemical
Drilling & production, plant operations
Manufacturing
Consumer products, chemical products, farm equipment, industrial equipment, paper and wood products, textile equipment
Consulting engineering firms

Ways to Prepare

Takes broad outlook on solving complex problems. Involves design, development and production. Keeps pace with technology. Acts as an interface between society and technology.

- Obtain related experience through internships or co-op.
- Take additional courses in area(s) of interest.
- Develop strong interpersonal and communication skills.

Job Types

ENVIRONMENTAL

Design
Planning
Operations
Administration
Regulations

Where to Find Them

Private industry and businesses involved with air pollution control, industrial hygiene, radiation protection, hazardous waste management, toxic materials control, water supply, storm water and wastewater management, solid waste disposal, public health, and land management
Private engineering consulting firms
Construction firms
Research firms
Testing laboratories
International organizations

Ways to Prepare

Discipline plays vital role in reducing toxicity and pollution of water, ground and air for a better quality of life for all living things.

- Consider a master's degree for advancement.
- Foreign language ability beneficial for international work.

Job Types

NUCLEAR

Environment and Pollution
Health
Space Exploration
Consumer and Industrial Power
Food Supply
Transportation
Water Supply

Where to Find Them

Electric and gas utility companies
Guided missile and space vehicle companies
Engineering consulting firms
Business services including medical industry
Manufacturers of nuclear power equipment
Research facilities
Military services
Defense manufacturers

Ways to Prepare

Discipline studies basic components of neutrons, protons, electrons and all matter; deals with inanimate substances.

Job Types

ENGINEERING SCIENCE & MECHANICS

Engineering Mechanics
Biomedical Engineering
Computational Mechanics
Engineering Materials

Where to Find Them

Industry
Manufacturing
Research organizations

Ways to Prepare

Interdisciplinary program with broad training in engineering science, mathematics, and physical or biological science.

The field of engineering is constantly changing, and the information listed below does not exhaust possible career options. Be sure to speak with your department chair or academic advisor for further guidance on course selections, as well as career planning.