WHAT DO WE STUDY?
Atmospheric Science is the study of the physics, chemistry, and dynamics of gases, clouds, and aerosols that surround the planetary bodies of the solar system. Planetary Science is the study of the origin and evolution of the planetary bodies in the solar system and beyond. At HU, researchers study the dynamics of planetary interiors and the interaction of the solid planet and atmosphere.

WHY IS IT CUTTING-EDGE?
"In this age, remote sensing in general and weather prediction in particular are impossible without satellite observations that allow us to get global coverage in a few hours or even minutes. Development and construction of space instruments are the most cutting-edge areas of modern technology. It combines and requires not only a fundamental background in math and physics but also in engineering, computer sciences, and many other fields. This is why successful education in atmospheric sciences provides students with knowledge and skills that can be applied in a wide range of different scientific areas." - Stanislav Kireev, Ph.D.

SKILLED SCIENTISTS ARE NEEDED TO...
"Engineer new instrument systems, develop sophisticated four dimensional data analysis techniques, develop novel approaches to using these new remote sensing data for environmental prediction, develop numerical models able to assimilate the vast quantity of data which will be transmitted from these new remote sensing systems."

- W. L. Smith, Ph.D.

"1) ... assess the threat of global warming by collecting and analyzing past and present data on worldwide temperature trends, greenhouse gases, water vapor, and air pollutants; 2) ... investigate the sources, transport, and chemical changes in pollutants that are causing severe air quality problems; 3) ... study the variations in weather patterns that create droughts and floods, which can have dramatic effects on human lives; 4) ... understand what causes hurricanes to form and how to forecast their paths more accurately."

- Hovakim Nazaryan, Ph.D.

INDUSTRIES:
- Climatology
- Air-pollution control
- Forestry
- Agriculture
- Defense
- Transportation
- Effective land use
- NASA
- Building design & heating/cooling systems
- Aerospace

ARE YOU READY?
TALK TO US
Department of Atmospheric and Planetary Sciences
Dr. Robert Loughman, Chairperson
PHONE: 757.727.5137

CAS Co-Directors
Dr. James M. Russell, III
Dr. M. Patrick McCormick

GO ONLINE
http://science.hamptonu.edu/aps/
http://cas.hamptonu.edu

TOUR CAMPUS
http://www.hamptonu.edu/
MISSIONS: PRESENT + PAST

- Coupled Planetary and Atmospheric Evolution
- Icy Satellite Exploration
- Remote Sensing
- Solar Variability and Effects on Earth
- Lidar and related technologies
- Polar Stratospheric and Mesospheric Clouds
- Lidar and related technologies
- Solar Variability and Effects on Earth
- Remote Sensing
- Satellite Data Assimilation in Weather Forecast Models
- Icy Satellite Exploration
- Coupled Planetary and Atmospheric Evolution

AREAS OF DAPS FACULTY RESEARCH:

- Ozone Trends and Atmospheric Chemistry
- Polar Stratospheric and Mesospheric Clouds
- Lidar and related technologies
- Solar Variability and Effects on Earth
- Remote Sensing
- Satellite Data Assimilation in Weather Forecast Models
- Icy Satellite Exploration
- Coupled Planetary and Atmospheric Evolution

MISSIONS: PRESENT + PAST

- AIM
- GIFTS
- CALIPSO
- OMPS
- SABER (TIMED)
- HALOE (UARS)
- LIMS
- Natl Aeronautics & Space Administration (NASA)
- Natl Inst. Aerospace
- Natl Oceanic & Atmospheric Administration (NOAA)
- Natl Inst. Inst. Aerospace
- Univ. Colorado
- Univ. Maryland
- Univ. Michigan
- Univ. Iowa
- Univ. Virginia
- Univ. Washington
- Univ. Wisconsin
- George Mason Univ.
- Georgia Tech
- N.C. A&T
- N.C. State Univ.
- Utah State Univ.
- Virginia Tech

DAPS REQUIREMENTS

- 3.0 GPA or higher
- 2-3 semesters of calculus
- Differential equations
- 2 semesters of calculus-based physics
- GRE - submit scores
- TOEFL - for international students
- 3 letters of recommendation
- Personal statement
- Linear Algebra is recommended but not required
- Knowledge of some computer programming language

The above requirements are in addition to the graduate school application and requirements found at: www.hamptonu.edu/studentservices/admissions/apply.htm

DAPS offers a course of study in SEAS Minor leading to M.S. and Ph.D. degrees. Students from a variety of academic disciplines are welcome, and the curriculum maintains flexibility to match individual interest.

Ph.D.

- Atmospheric Physics
- Atmospheric Radiative Transfer
- Geophysical Fluid Dynamics
- Atmospheric Measurements
- Writing & Presenting Seminar
- Intro to Structure & Dynamics *AST
- Atmospheric Chemistry *AST
- Principles of Planetary Science *PST
- Space Weather *PST
- Final Oral Exam
- Research
- Approved Electives

TOTAL 74 Credits

M.S.

- Atmospheric Physics
- Atmospheric Radiative Transfer
- Geophysical Fluid Dynamics
- Intro to Structure & Dynamics *AST
- Atmospheric Chemistry *AST
- Principles of Planetary Science *PST
- Space Weather *PST
- Research
- Thesis
- Approved Electives

TOTAL 30 Credits

*AST = Atmospheric Science Track
*PST = Planetary Science Track

HU GRADUATE COLLEGE

Address: The Graduate College, Hampton University
Wigwam Building, Room 203, Hampton, VA 23668
Phone: 757.727.5454

We truly welcome inquiries from students and others interested in our programs in the Department of Atmospheric and Planetary Sciences. The Hampton University campus is an attractive and comfortable setting for students and faculty. It maintains an air of friendliness and collegiality fostering intellectual development and achievement, and we invite prospective students to contact us and arrange for a visit. Our research center, CAS, is home to an array of projects funded by NASA, NOAA, and other agencies, in partnership with other universities, research centers, and industry, both domestically and internationally. This research is a prominent feature of the education programs; offering students at all levels unparalleled opportunities to participate at the forefront of atmospheric and planetary sciences. We proudly note recognition by NASA of the exemplary success of the department.

As we all make our way through the 21st century, issues related to environment will present some of the greatest challenges. A robust community of scientists is essential for assessment and insights to support informed decisions affecting generations to come. The department is dedicated to education and training of the next generation of scientists to extend our understanding of Earth and other worlds, and provide leadership in fields of atmospheric and planetary sciences.

YOUR BACKGROUND

The program welcomes students from Physics, Mathematics, Chemistry, Environmental Sciences, Planetary Sciences, Astronomy, Computer Science, and Engineering.

Students with other majors are encouraged to talk to Dr. Robert P. Loughman, Department Chair. Applicants without the minimum requirements will be considered for entry into the program. Some developmental course work will be required.