The University of Puerto Rico is a well established and mature institution, with a total enrollment of over 69,000 students. The University consists of the Mayagüez Campus, the Medical Sciences Campus, and the Rio Piedras Campus, which are dedicated to both undergraduate and graduate education; and the Colleges at Aguadilla, Arecibo, Bayamón, Carolina, Cayey, Humacao, Ponce, and Utuado which provide undergraduate education. Each autonomous institutional unit has a Chancellor as chief administrator and academic officer.

UPRM is a co-educational, bilingual, and non-sectarian school comprising the Colleges of Agricultural Sciences, Arts and Sciences, Business Administration, Engineering, and the Division of Continuing Education and Professional Studies.

It is fully accredited by the Council of Higher Education of Puerto Rico. It holds membership in the Middle States Commission on Higher Education since 1946. It is also a member of the Association of Hispanic-American Universities. Our academic programs are accredited by professional entities.

The Mayagüez Campus of the University of Puerto Rico is a member of Oak Ridge Associated Universities (ORAU) since 1966. ORAU is a private, nonprofit consortium of 65 colleges and universities that acts as management and operating contractor for the US Department of Energy (DOE).

Atmospheric Sciences and Meteorology

Department of Physics
Physics Building, office 215-B
PO Box 9016
Mayaguez, PR 00681 - 9016

Phone: (787) 832-4040 ext. 2077
Fax: (787) 832-1135
e-mail: daramirez@uprm.edu

Puerto Rico satellite image obtained from: http://cacique.uprm.edu/gers/images.html
The Physics Department of the University of Puerto Rico at Mayagüez is developing an academic program in Atmospheric Sciences and Meteorology. The development of this program has the benefit of a cooperative agreement between the National Oceanic and Atmospheric Administration (NOAA) and the University of Puerto Rico, Mayagüez Campus.

A current student of a Bachelor program in Natural Sciences, Math or Engineering can take a number of courses in atmospheric sciences as part of their elective coursework. A student that appropriately completes the sequence of courses will be able to get a certification from the Physics Department and an annotation on his academic record in recognition of having completed a sub-specialty in Meteorology.

The curriculum sequence under development will satisfy the specification GS-1340 of the Office of Personnel Management of the Federal Government, which is the one that describes professional requirements for careers in meteorology.

Our Program offers a Summer Research Internship for undergraduate students in projects related to Atmospheric Sciences. The students become familiar with typical activities and problems, as selected by local college professors, atmospheric scientists, meteorologists or other specialists related to this field.

The students submit a written report and present orally the results of the summer research activities, during a local symposium organized in August. We have provided a short workshop on presentation skills for the benefit of the participating summer students, before the symposium.

Summer Research Internship

Course sequence required:

**METE 4006** Introduction to Meteorology
Three credit hours. Elementary course in general meteorology. Pre-requisites: FISI 3012 or FISI 3152 or FISI 3162 or FISI 3172 (General Physics II)

**METE 4007** Meteorological Measurements
One credit hour. Meteorological measurements laboratory. Pre-requisites: METE 4006

**METE 4008** Physical Meteorology
Three credit hours. Study of radiation measurements, atmospheric electricity and microphysics of clouds. Pre-requisites: METE 4006 and MATE 3063 (Calculus III)

**METE 4057** Atmospheric Thermodynamics
Three credit hours. Formal discussion of the laws of classical thermodynamics applied to meteorological problems. Pre-requisites: FISI 3172 (Gen. Physics II), MATE 3063 (Calc. III)

**METE 4061** Dynamical Meteorology
Three credit hours. Formal discussion of equations of momentum, continuity, vorticity and conservation of energy applied to describe the meteorology of the middle latitudes. Basic aspects in the dynamics of the tropical atmosphere will be discussed. Pre-requisites: FISI 3172 (Gen. Physics II), METE 4006, MATE 3063 (Calc. III).

Co-requisite: MATE 4009 (Ord. Diff. Equations)

** **METE 4071** Mesoscale Meteorology
Three credit hours.

** **METE 4081** Synoptic Meteorology
Three credit hours.

**METE 5052** Advanced Dynamical Meteorology
Three credit hours. Formal discussion of the quasi-geostrophic approximation, the linear perturbation theory, and baroclinic instability applied to the description of mid-latitude meteorological phenomena. Pre-requisites: METE 4061, MATE 4009

**GEOL 3105** Images of Planet Earth
Three credit hours. Three hours of lecture per week. The use of images of our planet Earth for the study of earth systems science with emphasis on global change; the interactions among the lithosphere, asthenosphere, hydrosphere, cryosphere, atmosphere, and biosphere; the Earth as a planet within the solar system.

**Suggested alphanumerical code**