

UNIVERSIDAD DEL SAGRADO CORAZÓN
DEPARTMENT OF NATURAL SCIENCES

TITLE OF THE COURSE: FORESTS OF PUERTO RICO

CODE: BIO 220

CREDITS : 3

PREREQUIREMENT : BIO 109 or BIO 111

CONFERENCE : 45 HOURS

DESCRIPTION

Study of physical and biological characteristics of puertorican forests. Weather, geography, soils, flora and fauna. Natural resources. Recreational, research, recreational and tourism potential.

JUSTIFICATION

The rational use of the natural resources gets more important with time due the excessive increase of the population and destruction of forested areas in order to provide space for urban, agricultural, commercial, industrial and recreational facilities. This widespread e destruction limits the opportunity of recovery of the forests and causes the erosion of the lands and damages to terrestrial and aquatic ecosystems, which are particularly impacted in terms of their water quality at an alarming rate. The study of the forests structure, composition and interactions of the organisms is important for the intellectual formation of the university student. The course will provide the basic knowledge s that will allow the student to promote the rational conservation of the natural resources and their sustainable development.

OBJECTIVES:

1. To identify the forest regions of Puerto Rico and the different forests that characterized them.
2. To locate the forests and to identify the municipalities in which they are.
3. To compare the types of lands and the climatic characteristics of the state and federal forests.
4. Discuss to the diversity of flora and fauna of each forest and explain their differences.
5. To recognize the vulnerable and endangered plants and animals species and the responsible factors for such status.
6. Discuss the potentiality of each forest for wood production, water management, scientific research, environmental education, passive recreation and tourism.

CONTENT:

I. Caribbean National Forest (Luquillo Forest).

- a. location, extension and ownership
- b. water bodies
- c. flora and fauna
- d. species threatened and in danger of extinction
- e. experimental and educative use
- f. recreational and tourist use
- g. threats to the forest

II. The coastal forests

1. The Aguirre forest

- a. location, extension and ownership
- b. water bodies
- c. flora and fauna
- d. species threatened and in danger of extinction
- e. experimental and educative use
- f. recreational and tourist use
- g. threats to the forest

2. The Boquerón forest

- a. location, extension and ownership
- b. water bodies
- c. flora and fauna
- d. species threatened and in danger of extinction
- e. experimental and educative use
- f. recreational and tourist use
- g. threats to the forest

3. The Ceiba forest

- a. location, extension and ownership
- b. water bodies
- c. flora and fauna
- d. species threatened and in danger of extinction
- e. experimental and educative use
- f. recreational and tourist use
- g. threats to the forest

4. The Piñones forest

- a. location, extension and ownership
- b. water bodies
- c. flora and fauna
- d. species threatened and in danger of extinction
- e. experimental and educative use
- f. recreational and tourist use
- g. threats to the forest

5. The Guánica forest

- a. location, extension and ownership
- b. water bodies
- c. flora and fauna
- d. species threatened and in danger of extinction
- e. experimental and educative use
- f. recreational and tourist use
- g. threats to the forest

II. The karst región forest

1. The Cambalache forest

- a. location, extension and ownership
- b. water bodies
- c. flora and fauna
- d. species threatened and in danger of extinction
- e. experimental and educative use
- f. recreational and tourist use
- g. threats to the forest

2. The Guajataca forest

- a. location, extension and ownership
- b. water bodies
- c. flora and fauna
- d. species threatened and in danger of extinction
- e. experimental and educative use
- f. recreational and tourist use
- g. threats to the forest

3. The Río Abajo forest

- a. location, extension and ownership

- b. water bodies
- c. flora and fauna
- d. species threatened and in danger of extinction
- e. experimental and educative use
- f. recreational and tourist use

4. The Vega forest

- a. location, extension and ownership
- b. water bodies
- c. flora and fauna
- d. species threatened and in danger of extinction
- e. experimental and educative use
- f. recreational and tourist use
- g. threats to the forest

IV. The high elevation forest

1. The Carite forest

- a. location, extension and ownership
- b. water bodies
- c. flora and fauna
- d. species threatened and in danger of extinction
- e. experimental and educative use
- f. recreational and tourist use
- g. threats to the forest

2. The Maricao forest

- a. location, extension and ownership
- b. water bodies
- c. flora and fauna
- d. species threatened and in danger of extinction
- e. experimental and educative use
- f. recreational and tourist use
- g. threats to the forest

3. The Guilarte forest

- a. location, extension and ownership
- b. water bodies
- c. flora and fauna
- d. species threatened and in danger of extinction
- e. experimental and educative use
- f. recreational and tourist use

g. threats to the forest

4. The Susúa forest

- a. location, extension and ownership
- b. water bodies
- c. flora and fauna
- d. species threatened and in danger of extinction
- e. experimental and educative use
- f. recreational and tourist use

5. The Toro Negro forest

- a. location, extension and ownership
- b. water bodies
- c. flora and fauna
- d. species threatened and in danger of extinction
- e. experimental and educative use
- f. recreational and tourist use
- g. threats to the forest

V. The forests of new creation

- 1. San Patricio forest
- 2. Third Millennium forest
- 3. Adjuntas forest

METHODOLOGY:

- 1. Conferences and discussion
- 2. Audiovisual presentations
- 3. Field trips (saturdays and sundays)
- 4. Oral reports

EVALUATION:

- 1 partial exam 30%
- 1 oral report 10%
- 4 field trips 40%
- 1 final exam 20%

TEXT

Domínguez Cristóbal, Carlos M. 2000. Panorama Histórico Forestal de Puerto Rico. Editorial de la Universidad de Puerto Rico.

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Biaggi, Virgilio. 1997. Las Aves de Puerto Rico, 4ta Ed. Editorial de la Universidad de Puerto Rico.

Departamento de Recursos Naturales y Ambientales. Guías para visitar los bosques de Puerto Rico.

Farnsworth, Beth, Miguel Canals and Bethany Woodworth. 1991. A Guide to Trails of Guánica. Departamento de Recursos Naturales y Ambientales.

Francis, John K. and Carol A. Lowe. 2000. Bioecología de árboles nativos y exóticos de Puerto Rico y las Indias Occidentales. USDA Forest Service Technical Report IITF-15.

Liogier, Henri Alain and Luis F. Martorell. 2000. Flora of Puerto Rico and adjacent islands: a systematic synopsis, 2nd ed. Editorial de la Universidad de Puerto Rico.

Little, Elbert L. Jr., Frank Wadsworth y José Marrero. 2001. Árboles comunes de Puerto Rico y las Islas Vírgenes, 2a ed. Editorial de la Universidad de Puerto Rico.

Little, Elbert L. Jr., Roy O. Woodbury y Frank Wadsworth. 1974. Árboles de Puerto Rico y las Islas Vírgenes. 20 volumen. USDA Forest Service Agriculture Handbook No. 449-S.

Lugo, Ariel et al. 2001. Puerto Rican Karst – a vital Resource. USDA Forest Service General Technical Report WO-65.

Rivero, Juan A. 1998. Los anfibios y reptiles de Puerto Rico, 2a ed. Editorial de la Universidad de Puerto Rico.

Wadsworth, Frank H. 1997. Forest Production for Tropical America. USDA Forest Service Agriculture Handbook 710.

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