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Personería Jurídica No. 192 de 1946 de Mingobierno  
Nit.: 860.013.798-5



## FREE UNIVERSITY PEREIRA SECTION

### UNDERGRADUATE PROGRAM IN ENVIRONMENTAL ENGINEERING



**SUBJECT:** FORESTRY

CODE: 12722

SEMESTER: SEVENTH

AREA: BASIC ENGINEERING SCIENCES

MODE THEORY - PRACTICE

PREREQUISITE SOILS

IHS 2

HTSI 4

NUMBER OF CREDITS 2

#### CURRICULAR RELATIONSHIP

The subject is linked to other geospheric components such as geology and soils. Furthermore, with importance from the integrality in hydrographic basins.

#### NON-PRESENTIAL WORKING HOURS INTENSITY



[www.unilibre.edu.co/pereira](http://www.unilibre.edu.co/pereira)

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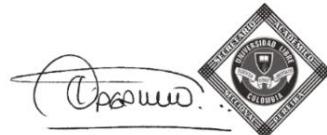


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To meet the different academic commitments regarding documentation, preparation of presentations for class, collection and processing of information, reports, They schedule at least four (4) hours per week.



## FIELD PRACTICES

The following practices are scheduled for the semester:

Place	Destination	Days	Cost	Transportation
		1/2	Students	
		1/2	Unilibre *	
		3	Unilibre *	

Official \*

Each practice will have a work guide and at the end of the day, each student will present a written report.

The enrichment of the practices is complemented by the student by 50% with the academic feedback, participation, commitment, seriousness, responsibility and ethics.

## GOALS





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## GENERAL

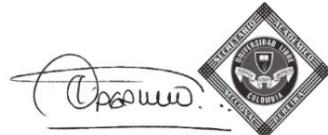
Know the importance of the tree as a fundamental element for man and the environment environment (CO<sub>2</sub> sinks), biomass input, energy, food, paper, construction, etc. That the student acquires the knowledge and skills necessary to apply the silviculture in forest development taking into account eco-efficiency, development economic and social.

## SPECIFIC

Know and evaluate the different stages of tree formation, from fertilization passing through the nursery, establishment, management and processing.

Find the characteristics of tropical forests.

Learn about the research being carried out in biotechnology.



## CONTENT

### INTRODUCTION

### PEDAGOGY

### 1. GENERALITIES

#### 1.1 Definition





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## 1.2 History

### 1.3 Fundamentals (group work)

### 1.4 Purposes (group work)

## 2. THE FLOWER

### 2.1 Its parts

### 2.2 Dioecious

### 2.3 Monoecious

### 2.4 Importance

## 3. THE SEED

### 3.1 Parts

### 3.2 The seed in the plant

### 3.3 Gymnosperms

### 3.4 Angiosperms

### 3.5 Forest seed collection

### 3.6 Management (group work)

### 3.7 Germination

### 3.8 Costs (research work each group analyzes in class)

## 4. NURSERIES

### 4.1 Definition





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#### 4.2 Importance

#### 4.3 Types

#### 4.4 Structure

#### 4.5 Substrate and types of packaging

#### 4.6 Production system

#### 4.7 Elements for handling

#### 4.8 Costs (research work each group analysis in class)

The above items will be developed in the field, and will be reinforced in class with slides.

### FOREST PLANTATIONS

#### Importance

#### Criteria for the establishment of forest plantations

#### Steps for establishment

#### Maintenance

#### Utilization (inventory, dasometry)

#### Products

#### Costs (research work each group analyzes in class)

The above items will be developed in field work on farms in the municipality of Pereira, Dosquebradas and Balboa) and slide projection

### AGROFORESTRY

#### 6.1 Importance





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## 6.2 Models

## 6.3 Maintenance

## 6.4 Benefits

## 6.5 Costs (Research work each group analyzes in class)

Field practice in Buenaventura and Sonoviso

## 7. TROPICAL FORESTS

### 7.1 Importance

### 7.2 Features

### 7.3 Structure

### 7.4 Benefits

### 7.5 Costs

Bajo Calima Tropical Forest Center and work with acetates or Video Veen

## 8. Urban Arboriculture

Importance

Research work.

## 9. BIOTECHNOLOGY

## WORK STRATEGIES





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Master classes

Workshops

Reading analysis

Acetate projection

Multimedia slides

Internship reports

Participatory work see annexes.

FIELD PRACTICES WILL BE EVALUATED ACCORDING TO THE REGULATIONS OF FIELD PRACTICES, IF YOU ARE NOT GOING TO ATTEND YOU MUST PROVIDE JUSTIFICATION IN WRITING BEFORE THE DEAN'S OFFICE.



## LITERATURE

- CONIF. National Forestry Meeting. 1987.

- FAO. Seed and Nursery Manual.

- LAMPRCH, Hans. Silviculture in the Tropics. 1990.

- Unasylva Magazines.





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- RODRIGUEZ, Pedro Ignacio. Forestry Fundamentals. 1997.
- SENA. "Microwatershed Reforestation" Series.
- TRUJILLO NAVARRETE, Enrique. Seed management, nurseries, and initial planting.
- internet. [www.minambiente.gov.co](http://www.minambiente.gov.co);
- [www.fao.gov](http://www.fao.gov);
- [www.unasylva.gov](http://www.unasylva.gov).
- [www.minagricultura.gov](http://www.minagricultura.gov)
- [www.dnp.gov](http://www.dnp.gov).
- [www.spaceplace.jpl.nasa.gov](http://www.spaceplace.jpl.nasa.gov)
- [www.encolombia.com](http://www.encolombia.com)
- [www.infoagro.gov](http://www.infoagro.gov)

## FORESTRY COURSE METHODOLOGY

### LEARN - LEARNING

### JOBS

1. Plant ornamental or fruit plants (for every fruit tree, four ornamental plants)





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Groups of two people

Week-by-week monitoring (plating)

Fertilization twice

Insect control (worth 10% of the final grade)

#### 1.1 Final work, both semesters submit work with location plan

Includes a monograph and historical overview of the species (who planted them). 5% of the final grade.

Anyone involved in the work will be chosen at random to present their work, and the grade will be the same for everyone.

Eight days after planting the trees, the work can be delivered, up to the last day of school.

Nursery construction: Construction of two brick sheds for each semester. Visit to the Regional Guadua Nursery.

Planting test of 100 seeds, for every three students

Submitting work during class hours

#### **WORK POINTS**

Species common and scientific names

General objective(s)

Specific objectives





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## Methodology

Statistical analysis (interpretation of results)

Essay costs

Conclusions and recommendations

Literature

