

**ACADEMIC YEAR: 2018-2019**

COURSE: Regional silviculture and ecosystem processes

TYPE OF EDUCATIONAL ACTIVITY: Basic

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Language: Italian

ECTS: (lessons / tutorials/practice): 12	n. of hours: 80 hours of lessons 32 hours of practice	Campus: Potenza School: SAFE Program: LM Forest and Environmental Sciences	Semester: I & II
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#### EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

We provide knowledge on the characteristics, functionality and direction of change (with respect to expected climate and land-use changes) of the main Italian forests with special focus on the Mediterranean forests. The aim is to allow the student to acquire the necessary know-how to define suitable cultural tools and plans towards the adaptive management of forest ecosystems.

#### PREREQUIREMENTS

- LT (3-year degree): Forest and Environmental Science
- Forest ecology and general silviculture

#### SYLLABUS

##### Lessons

Consistency, general characteristics, functionality, silvicultural and management methods for the following Italian forests: Mediterranean macchia, evergreen oak forests, Mediterranean pine forests, deciduous oak forests, chestnut stands, beech and silver fir forests, Norway spruce, larch, Scots pine and stone pine forests.

General principles on nursery practice and tree crop plantations.

Environmental physiology of forest trees and forest stands with special focus on carbon uptake and water relation processes and the functional response of forest ecosystems to climate change. Process-based models to predict the carbon uptake of forest ecosystems: general principles and main characteristics.

##### Practices

Case studies on the management of important Italian forests, from the Mediterranean to the sub-alpine belt. Use of process-based model to predict the carbon uptake of forest ecosystems.

#### TEACHING METHODS

80 hours of lessons 32 hours of laboratory and field practices. During practices students will be asked to analyze specific forest management case studies.

#### EVALUATION METHODS

Oral examination at the end of the course. One of the questions will be related to topics addressed during practices.

#### TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- Teaching material distributed in classroom
  - Del Favero R. (2008) I Boschi delle regioni meridionali e insulari dell'Italia. CLEUP, Padova.
  - Waring, R.H., and S.W. Running (1998). Forest Ecosystems: Analysis at Multiple Scales. Academic Press, San Diego
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#### INTERACTIONS WITH STUDENTS

- in the office at planned days/hours (usually on Wednesday)
  - email, skype (every time)
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#### EXAMINATION SESSIONS (Forecast)

Calendar online:

<https://unibas.esse3.cineca.it/Home.do>

Usually the third Wednesday of every month (except August)

#### EVALUATION BOARD

Francesco Ripullone  
Marco Borghetti  
Agostino Ferarara

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SEMINARS BY EXTERNAL EXPERTS YES

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