

ACADEMIC YEAR: 2016-2017

COURSE: Wildland fires protection, Fire Ecology and Burnt areas Restoration

TYPE OF EDUCATIONAL ACTIVITY: Basic

TEACHER: Angelo Nolè

e-mail: angelo.nole@unibas.it

web:

<https://scholar.google.it/citations?user=4tPhnWoAAAAJ&hl=it>

Phone: : 0971 205358

Mobile: 3405748600

Language: italiano

ECTS: (lessons / tutorials/practice): 8	n. of hours: 56 hours of lessons 16 hours of practice	Campus: Potenza School: SAFE Program: LM Forest and Environmental Sciences	Semester: II semester
---	---	--	-----------------------

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The course contents will cover aspects related to the prevention, control and ecology of fire in forest ecosystems. Main course contents are: the role of fire as an ecological and a disturbance factor, functional responses of forest ecosystems to fires, wildland fire definition, wildland fires from global to local scale, wildland fires causes, the study of combustion and heat transmission processes, driving and determinant factors, fire types, fire behavior predictive models, fuel models, fire prevention plans, application of remote sensing for fire risk and fire danger estimation, national legislation and political measures for wildfires defence, AIB approach for wildland fire control and prevention, burnt areas recovery and restoration techniques.

The student will acquire the know-how to identify causes and typology of wildland fires in Mediterranean forest ecosystems, and to apply the Integrated Fire Management protocols through the AIB approach. The student will also be able to implement main softwares of fire behavior and fire risk and fire danger estimation models.

PREREQUIREMENTS

- LT (3-year degree): Forest and Environmental Science
- Ecology and structure of Forest ecosystem in the Mediterranean Region

SYLLABUS

Lessons

Wildland fire ecology, the role of fire as an ecological and a disturbance factor, functional responses of forest ecosystems to fires, wildland fire definition, wildland fires from global to local scale, wildland fires causes, the study of combustion and heat transmission processes, driving and determinant factors, fire types, fire behavior predictive models, fuel models, fire prevention plans, application of remote sensing for fire risk and fire danger estimation, national legislation and political measures for wildfires defence, AIB approach for wildland fire control and prevention, burnt areas recovery and restoration techniques

Practices

Softwares and Models implementation, Use of the FN/AIB National database, Remote sensing and GIS for fire risk assessment and fire risk thematic mapping. Field practices for the evaluation of vegetation fuels

TEACHING METHODS

56 hours of lessons and 16 hours of laboratory and field practices. During practices students will be asked to implement softwares and models studied during the course.



EVALUATION METHODS

Oral examination at the end of the course. The oral examination will include also questions related to the topics addressed during the practice hours

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- Teaching material distributed in classroom
- Blasi C., Bovio G., Corona P., Marchetti M., Maturani A. (a cura di), 2004 - Incendi e complessità ecosistemica . Dalla pianificazione forestale al recupero ambientale . Ministero dell'Ambiente e della Tutela del Territorio - Società Botanica Italiana.
- Chandler et Al., 1983 - Fire in Forestry . Wiley and Sons.
- Leone, V. & Lovreglio, R., 2009. Gli incendi nello spazio rurale: un disastro annunciato. Atti del Terzo Congresso Nazionale di Selvicoltura. Taormina (ME), 16-19 ottobre 2008. Accademia Italiana di Scienze Forestali, Firenze, p. 334-338.
- Lovreglio, R. & Leone, V., 2003. Tecniche di indagine delle cause di incendi boschivi. L'Italia Forestale e Montana. Fasc.1: 22-33
- Legge-quadro in materia di incendi boschivi n°. 353 del 21 novembre 2000.
- Regione Basilicata, 2009. Piano Antincendio Regionale (PAR) - Piano Triennale per la lotta agli Incendi Boschivi 2009 – 2011.
- Regione Basilicata, 2016. Programma Annuale Antincendio 2016
- Leone, V., Lovreglio, R., Bovio, G., Cesti, G., 2008. Manuale per Direttore Operazioni Spegnimento Incendi Boschivi . Corpo Forestale dello Stato
- Landi, B. & Landi, S. (2002). Organizzazione e tecnica della lotta contro gli incendi boschivi. Laurus Robuffo.
- Sauvagnargues-Lesage, S., Picard, C. Vasconcelos, S., Xanthopoulos, G. 2006. Fire suppression management and planning: A state of the art: final version. EUFIRELAB - Euro-Mediterranean Wildland Fire Laboratory, a "wall-less" Laboratory for Wildland Fire Sciences and Technologies in the Euro-Mediterranean Region Deliverable D-09-07.
- Xanthopoulos, G., Arianoutsou-Faragitaki, M, Prodo, R., Giovannini, G., Daskalaku, E., Andiopoulos, P., Radea, K., Kazanis, D., 2006. Methods to study fire impacts on plants (forest stands, shrubs, herbaceous taxa), soil and fauna. EUFIRELAB - Euro-Mediterranean Wildland Fire Laboratory, a "wall-less" Laboratory for Wildland Fire Sciences and Technologies in the Euro-Mediterranean Region Deliverable D-04-10.
- Peter R. Robichaud, P. R., Beyers, J.L., Neary, D.G. 2000. Evaluating the Effectiveness Of Postfire Rehabilitation Treatments. USDA General Technical Report RMRS-GTR-63
- Vallejo, V.R., Aronson, J., Pausas, J. & Cortina, J. 2006. Restoration of Mediterranean Woodlands Chapter 14 in Restoration Ecology. The New Frontier. J. Van Andel and J. Aronson (Eds.). Blackwell Publ., Oxford.

INTERACTIONS WITH STUDENTS

- in the office at planned days/hours (usually on Wednesday)
- email,
- mobile

EXAMINATION SESSIONS (Forecast)

Online Calendar:

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

EVALUATION BOARD

Angelo Nolè

Agostino Ferrara

Francesco Ripullone



**SCUOLA DI SCIENZE
AGRARIE, FORESTALI,
ALIMENTARI
ED AMBIENTALI**

SEMINARS BY EXTERNAL EXPERTS YES
