Post Graduate Program
Sustainable Management of Forest & Natural Ecosystems: Protection, Production & Exploitation

Contact email msc-sustainablemanagement@for.auth.gr
Director: Zacharoula Andreopoulou, Professor randreop@for.auth.gr

The program started in academic year : 2018-19 in the Department of Forestry and Natural Environment. Courses are attended in the Buildings in *Forest-Botanical Garden* of Aristotle University of Thessaloniki.

Every academic year are registered 36 students from a wide spectrum of disciplines are accepted from relevant background, such as
Environmental studies, Engineering studies, Science studies, Education studies, Studies in law, politics, economics, etc.

In the program we try to combine the knowledge, skills and development in the contemporary fore-environmental sector

- Principles of biological and ecological protection of natural environment
- Technical works and water-technical interventions in forest and ecosystems
- Production and exploitation of wood and biomass
- Sustainability and sustainable development within the exploitation of forests and natural ecosystems and natural resources.

The aims of the program are:
To support expertise and knowledge in the thematic of

- Forestry, natural environment and ecosystems
- Natural resources
- Sustainable management & protection of forest and natural ecosystems

To Support research on forestry and environment in our country,
To exploit new technologies and support forestry in practice and other environmental research units.

The duration of the program is 3 semesters and equals to 90 ECTS, while in 1st & 2nd semesters there is a total of 12 courses and 60ECTS and following, in the 3rd semester students attend classes on Statistics lectures and work on their Postgraduate Thesis 30ECTS

There are 3 available specializations for each student to follow in the program

- Specialization 1. ECOLOGY, PROTECTION – NATURE CONSERVATION
- Specialization 2. TECHNICAL WORKS, PRODUCTIONS AND EXPLOITATION OF WOOD BIOMASS
- Specialization 3. MANAGEMENT AND DEVELOPMENT IN FORESTS & NATURAL RESOURCES

There are several courses in each specialization for the student to select, whilst each student can potentially select 1 or 2 courses from the other two specializations. There is one common course for all specializations in the 1st semester, "Research and Paper/Thesis Writing Methodology"

Specialization 1. ECOLOGY, PROTECTION – NATURE CONSERVATION

- Ecology and Management of rare wild life species
- Ecology of Rangelands
- Systematics of plant diversity, indigenous and rare plant species
- Protection of genetic forest resources
- Ecology, climate change and forest ecosystems
- Relations of wildlife ecotopes
- Protection of disturbed rangelands
- Monitoring of Natura 2000
- Forest fires
- Protected areas

Specialization 2. TECHNICAL WORKS, PRODUCTIONS & EXPLOITATION OF WOOD BIOMASS

- Water basins management –Torrents
- Innovative models and arrangement of mountainous water
- Stochastic hydrology
- Forest roads and works
- Landscape restoration-environmental impact assessment
- Land Registry systems
- Wood biomass and energy
- Life cycle analysis for wood products
- Wood products certification

Specialization 3. MANAGEMENT AND DEVELOPMENT OF NATURAL RESOURCES

- Remote Sensing & Geographic Information Systems
- Information Technologies and Environment
- Innovation and Entrepreneurship in Natural Environment
- Urban and Periurban Green
- Mountain soils: Management, Protection, Improvement and Restoration of their Functions
- Environmental Policy, Sustainable Development – Tourism
- Utilization of Rangelands and Agroforestry Systems
- Management of Biological Resources of Inland Waters- Wetland
- Population Genetics, Quantitative Genetics, Genomics and Genetic Improvement, Special Issues of Improvement
- Applied Silviculture, Reforestations-Forest Nurseries
- Adaptive forest management

Specialization 1. ECOLOGY, PROTECTION- CONSERVATION of NATURE

WINTER SEMESTER

M01: Research and Paper/Thesis Writing Methodology

Teaching Staff: Bakaloudis D., Sapountzis M., Tampakis S.
mailto: Bakaloudis D.: debakaloudis@for.auth.gr
Content: The interaction of Science - Research - Education. The scientific method. Evaluation of the relationships between theory and research. From the cause and the causal, to the cause and the correlation. Categories of scientific research. Focus on a research topic from a conceptual scientific idea. Research theme development: preparation and synthesis. Purpose of experiment and formulation of working hypotheses. Bibliographic research methodology. Search engines. Preparation and formal principles for organizing and writing a research proposal. Plagiarism. Standards, an essential research tool. Presentation of research results. Tables, diagrams, posters. Practical application for presenting a work on a poster. Methods of collecting research data, searching & editing literature on specific topics. Data collection and analyses in scientific research. Writing progress reports, scientific papers and dissertations.

M11: Ecology and Conservation of Rare Wildlife Species

Teaching Staff: Vlachos C., Bakaloudis D., Kokkinakis A.
mailto: Bakaloudis D.: debakaloudis@for.auth.gr
Content: The aim of the course is the introduction, within the frame of biodiversity, to the concept of rare species and the ecological processes that create them. The course highlights the factors influencing population reduction and pinpoints causes of species extinction as well as threats to their habitats.

M12: Grazing Ecology and Rangeland Ecosystems Management

Teaching Staff: Yiakoulaki M.
mailto: Yiakoulaki M.: yiak@for.auth.gr
Content: The course focus is on grazing ecology and rangeland management and development. Topics include foraging behavior and livestock distribution, forage nutritive value, feed intake, and animal welfare. Carrying capacity, stocking rate, grazing systems and their importance in livestock production are discussed. The characteristics of Greek livestock farming and the European and national policy for the sustainable management of rangelands and protected areas complete the lectures of this course.

M13: Systematics, organization of floristic diversity, endemic, rare and threaten species

Teaching Staff. Eleftheriadou E., Theodoropoulos K., Abraham E., Panagiotidis S., Alizoti P., Tsaktsira M.
mailto: Eleftheriadou E.: eelefthe@for.auth.gr
Content: The course introduces students to the way the diversity of angiosperm plant is organised through Taxonomy and Systematics using a variety of carefully chosen characters. It presents modern tools in Systematics and Taxonomy of floristic diversity and highlights its

functional correlation to the ecosystems it shapes. Introduces the theoretic and practical background in the process of identification, classification and incorporation of plant specimens to a hierarchic classification system. It takes a thorough approach to the species concept the basal unit of organismal diversity and focuses on special Greek plant species (rare, endemic and threaten). It highlights the importance of Botanic Gardens in organising and preserving the verified floristic diversity in local and national level.

M14: Conservation of Forest Genetics Resources
Teaching Staff: Aravanopoulos F.A., Skaltsoyannes A.B., Barbas E., Alizoti P.G., Tsaktsira M., Tsoulpha P.
mailto: Aravanopoulos F.A.: aravanop@for.auth.gr
Content: Population, ecological and evolutionary genetics. Importance of evolutionary history in conservation genetics. Threats against genetic diversity. Environmental pollution and climate change. Strategies for the conservation and protection of genetic diversity. *In situ* and *ex situ* conservation of genetic resources. Size, number and location of populations for gene conservation. Effects of forest management and breeding on genetic diversity. Collection, preservation, storage and control of forest genetic material. Criteria and indicators in the conservation of forest genetic resources. Application of new technologies in conservation and preservation of forest genetic resources. International activities in forest genetic conservation.

M15-ΑΔ: Ecology, Climate Change and Forest Ecosystems
Teaching Staff: Ganatsas P., Stathis D., Skaltsoyannes A.B., Alizoti P.G., Tsaktsira M.
mailto: Ganatsas P., pgana@for.auth.gr
Content: Structure and function of forest ecosystems, Biodiversity and climate change in Forest Ecosystems, The carbon cycle, Distribution and accumulation of biomass in forest ecosystems, Ecology of growth, Above-ground and below-ground biomass distribution, Emissions and accumulation of carbon in forests, Forests as carbon sink, World climate changes and climate change in Greece, Forests and climate change, The ability of forest species to adapt to climate change, Phenomics and conservation of forest genetic resources, Conservation of genetic resources under climate change conditions, Forest genetic monitoring and climate change, Kyoto Protocol and relevant International Conventions, The contribution of forests to greenhouse gas reduction, Biomass uptake from forest ecosystems, Stability of forest ecosystems, Monitoring of forest ecosystems.

SPRING SEMESTER

M16-ΑΔ: Analysis of Wildlife-Habitat Relationships
Teaching Staff: Bakaloudis D. E., Vlachos Ch.,
mailto: Bakaloudis D. E.: debakaloudis@for.auth.gr
Content: Concepts and estimation of wildlife population demographic parameters. Estimation of wildlife community parameters. Estimation of wildlife habitat parameters from micro-scale to landscape level. Principles of wildlife habitat management in evolutionary and ecosystem context. Integrated wildlife-habitat study design and monitoring program.

M17-ΑΔ: Protection and Restoration of Disturbed Rangeland Ecosystems
Teaching Staff: Professor Abraham E., Associate Professor Parissi Z.
mailto: eabraham@for.auth.gr
Content: The concept of disturbance in rangeland ecosystems, Ecological consequences of the disturbances, Response of ecosystem to disturbance, Main disturbances of rangeland

ecosystems, Restoration approaches, Practices for vegetation improvement, Establishment and cultivation of herbaceous and woody species and evaluation of environmental impact, Protection of endangered species, Environmental improvements of plant communities using the grazing as tool, Monitoring and evaluation of restoration practices

M18: Analysis of population dynamics of rangeland Ecosystem, Analysis of rangeland landscape

Teaching Staff: Karatassiou M.
mailto: Karatassiou M.: karatass@for.auth.gr
Content: Introduction to Population Biology, Population Interactions and Dynamics, Diversity and Inheritance, Population Ecology and Evolution, Seed Dynamics, Competition and Coexistence, Intra-Specific and inter specific relationships, Survival Curves, CO_2 Balance, Physiology and Population Dynamics, Function and evolution of rangeland landscape, Models of dynamic evolution of rangeland ecosystems, Methodology, structure, functions, changes, disturbances of rangeland landscape, landscape elements. Assessment of multifunctional function and services of rangeland ecosystem and landscape.

M19: Inventory and monitoring of habitats and species- Natura 2000 network

Teaching Staff: Theodoropoulos K., Eleftheriadou E., Panagiotidis S., Karatassiou M., Bakaloudis D.
mailto: Panagiotidis S.: pansamp@for.auth.gr
Content: Directive 92/43/EEC, Bird Directive, NATURA 2000 Network, Management Agencies in Greece, Coastal and Halophytic Habitats, Coastal sand and Inland Dunes, Freshwater Habitats, Temperate Heath and Scrub, Sclerophyllous Scrub (Matorral), Natural and Semi-Natural Grassland Formations, Rocky Habitats and Caves, Raised Bogs and Mires and Fens, Forests (Forest Habitats I), Forests (Forest Habitats II), Monitoring of Habitats and Flora Species, Sampling Methods, Parameters of Habitats and Flora species evaluation- an assessment Methodology, Applying Habitats and Flora species evaluation methodology in Greece

M110: Wildland Fire Management Planning - Wildland Fire Risk Assessment Models

Teaching Staff: Dimitrakopoulos A.
mailto: Dimitrakopoulos A.: alexdimi@for.auth.gr
Content: issues on forest fires and wild fires, wild fires management planning and fire risk assessment models

M111: Nature Protection and Protected Areas

Teaching Staff: Tsitsoni T., Zagas T., Ganatsas P. Edip member Dr. Tsakaldimi M.
mailto: Tsitsoni T.: tsitsoni@for.auth.gr
Content: The course provides a master education level, for the rational management of natural resources, aiming to a sustainable development, The scientific topics are related to nature protection, protected Areas management planning, international and European classification systems, categories of Protected Areas according to National, European and International Legislation, analyzing Protected Areas cases in Greece and abroad- Good practices, future trends.

Specialization 2. TECHNICAL WORKS, PRODUCTIONS AND EXPLOITATION OF WOOD BIOMASS

WINTER SEMESTER

M01: Research and Paper/Thesis Writing Methodology

Teaching Staff: Bakaloudis D., Sapountzis M., Tampakis S.
mailto: Bakaloudis D.: debakaloudis@for.auth.gr
Content: The interaction of Science - Research - Education. The scientific method. Evaluation of the relationships between theory and research. From the cause and the causal, to the cause and the correlation. Categories of scientific research. Focus on a research topic from a conceptual scientific idea. Research theme development: preparation and synthesis. Purpose of experiment and formulation of working hypotheses. Bibliographic research methodology. Search engines. Preparation and formal principles for organizing and writing a research proposal. Plagiarism. Standards, an essential research tool. Presentation of research results. Tables, diagrams, posters. Practical application for presenting a work on a poster. Methods of collecting research data, searching & editing literature on specific topics. Data collection and analyses in scientific research. Writing progress reports, scientific papers and dissertations.

M21-ΑΔ: Mountainous Water Management Methods and Principles - The science of hydrology in the management of watersheds

Teaching Staff: Stathis D., Sapountzis M., Myronidis D., Dr. Ganatsios H.
mailto: Stathis D.: dstatis@for.auth.gr
Content: The aim of the course is the torrential streams study, the selection of the appropriate watershed management system, the dimensioning of hydraulic works using computer programs and the hydrological management of the catchments so as to increase the surface water. Moreover, issues such as the watershed hydrology, the torrential flow, the technical and bioengineering measures so as to regulate the torrent stream, the relationship between forests and surface runoff are analyzed.

M22: Forest Open-Up Networks, Environmental Road Construction & Forest Transport Operations

Teaching Staff: Karagiannis E., Stergiadou A., Giannoulas V.
mailto: Stergiadou A.: nanty@for.auth.gr
Content: It deals extensively and in depth with the subjects: Forest Opening-Up Networks, Design, on field laying, Construction and Maintenance of forest road network, Use of ecological, recyclable and reused materials in paving. Environmental Road Construction. Forest Operations - transport networks of machineries and goods, Logistics Management, Modern machinery for economic and ecologic skidding of wood, Environmental Impact Assessments, concerning road construction projects, forest constructions, quarries, Applications of machinery in forestry projects, ecological footprint of roads axels, forestry works and constructions within forest areas.

M23: Utilization of woody biomass in energy production

Teaching Staff: Barboutis I.
mailto: Barboutis I.: jbarb@for.auth.gr
Content: Wood biomass is the most important source for energy production, which can help mitigate climate change and which has many advantages, as it is renewable, highly available and available everywhere, and can be used in energy production in a variety of ways. The specific course analyses woody biomass characteristics, the most efficient forms and methods

of its utilization and conversion into energy, quality requirements and international standards that have been developed for its quality control processes.

M24: Life cycle analysis of wood products - Structural Bioclimatic Wood Constructions
Teaching Staff: Tsioras P., Dr. Psilovikos Th.
mailto: Tsioras P.: ptsioras@for.auth.gr
Content: Basic principles of life cycle analysis (LCA), an important tool for the assessment of environmental performance (environmental impact analysis) and economic efficiency (life cycle cost). Timber as a building material, type of timber buildings and wood materials focusing to environmental aspects. Bioclimatic (Sustainable) design of timber structures and optimization of energy performance of buildings according to national and European union legislation. Thermal energy flow in timber buildings. LCA Applications in wood-based production sectors (e.g. timber harvesting, green buildings and energy production). Analysis of issues related to the life cycle, service life, recycling and disposal of wood-based products.

M25-ΑΔ: Genetic improvement and reproduction of forest plants for special purposes
Teaching Staff: Scaltsoyiannes A., Aravanopoulos F., Barbas E., Alizoti P., Tsaktsira M., Tsoulpha P.
mailto: Scaltsoyiannes A.: skaltsoy@for.auth.gr
Content: Selection of forest plants for special purposes. Genetic Improvement and methods for the production of wood for special purposes and biomass from fast-growing forest species. Forest plants for soil protection. Energy, CO2 capture and forests - forest plantations. Reproduction techniques and their importance in Genetic Improvement. Ornamental trees and shrubs. Fruit, aromatic, herbs, serotrophic and resinous forest plants. Forest species and fungi. Genetic improvement for Secondary Forest Plant Products, Management of genetic material, Utilization.

SPRING SEMESTER

M26-ΑΔ: Innovative Mountainous Water Management Models - Sediment Transport mechanisms (creation, transport, deposition)
Teaching Staff: Stathis D., Sapountzis M., Myronidis D., Ganatsios H.
mailto: Myronidis D.: myronid@for.auth.gr
Content: The aim of the course is the analysis of innovative models and techniques that can be used for the mountainous water management. In particular, issues such as the surface rainfall/runoff process, the hydrograph generation, the natural hazards assessment and the hydraulic works planning are analyzed. In addition, the torrential stream sediment mechanism (creation transportation and depositing) is considered. Moreover, issues such as the flood risk mapping and the stream morphological evolution are investigated.

M27-ΑΔ: Stochastic Hydrology
Teaching Staff: Stathis D., Sapountzis M., Myronidis D., Ganatsios H.
mailto: Sapountzis M.: sapuntzi@for.auth.gr
Content: Statistical analysis of hydrological variables. Frequency analysis of extreme values (Gumbel, Pearson type III, exponential distributions). Intensity-duration-frequency relationships. Hydrograph analysis. Rainfall-Runoff modeling methods. Rainfall temporal distribution. Unit, instant and synthetic hydrograph. Synthetic unit hydrographs. Hydrological modeling.

M28: Forest & Hydrological Engineering Projects, Landscape Restoration - Environmental Impact Assessments' (EIA)

Teaching Staff: Stergiadou A., Giannoulas V., Myronidis D., Zagkas Th.
mailto: Stergiadou A.: nanty@for.auth.gr, vgiannou@for.auth.gr
Content: An analysis is made of the Forest and Hydrological Engineering projects which are being established in order to achieve the restoration of the landscape as well as the preparation of Environmental Impact Assessments'. Issues related to the impact of these projects on the environment are analyzed, the effects on the environment are assessed and standard techniques for adapting the technical projects to the environment are presented. Landscape Restoration (quarries, wind turbine parks, photovoltaics, factories, etc.) and the legal framework for the preparation of Environmental Impact Assessments', Landscape Restoration, but also the structure and content of environmental studies are analyzed

M29: Land Registry - Integrated Cadastral Systems

Teaching Staff: Giannoulas V., Stergiadou A.
mailto: Giannoulas V.: vgiannou@for.auth.gr
Content: Land Registry (in operating and forest cadaster), Hellenic Historical cadastral route, Objections, Acquisitions, Current Legislation, Cadastral Imaging & Cartography Systems, Property Status, Land Uses, Forest Land Entrepreneurship, Rural Development Program (RDP) and financing to forest owners. Integrated Cadastral Systems as a Decision Making Tool for the Public and Private Sector.

M210: Nature Protection and Protected Areas

Teaching Staff: Thekla Tsitsoni, Ganatsas Petros, Zagas Theocharis, Tsakaldimi Marianthi
mailto: Thekla Tsitsoni : tsitsoni@for.auth.gr
Content: The course provides a master education level, for the rational management of natural resources, aiming to a sustainable development, The scientific topics are related to nature protection, protected Areas management planning, international and European classification systems, categories of Protected Areas according to National, European and International Legislation, analyzing Protected Areas cases in Greece and abroad- Good practices, future trends.

M211: Quality and Certification of wood products

Teaching Staff: Tsioras P.
mailto: Tsioras P.: ptsioras@for.auth.gr
Content: The concept of quality. Basic elements and evolution of certification. Certification bodies and systems. The use of certification by the consumer public and industry. The process of quality certification of consumer goods. Certification standards and procedure of wood product categories. Quality labeling.

Specialization 3. MANAGEMENT & DEVELOPMENT OF FORESTS & NATURAL RESOURCES

WINTER SEMESTER

M31 Remote Sensing and Geographical Information Systems

Teaching Staff: Gitas I.
mailto: Gitas I.: igitas@for.auth.gr
Content: Learning remote sensing and GIS involves a combination of education and training. This course introduces the principles of remote sensing to observe the earth, including: electromagnetic spectrum, data characteristics, data acquisition and processing, basic image processing. In relation to GIS, the course focuses on the principles and techniques of GIS required for the actual use of spatial data and the understanding of GIS operations.

M32. Information Systems and Environment

Teaching Staff: Andreopoulou Z.
mailto: Andreopoulou Z.: randreop@for.auth.gr
Content: Environmental information and organizational methods, databases, multimedia Apps, e-books, Internet, Broadband internet , Internet services, Green Informatics, Green internet, ecommerce, traceability systems, wireless networks of sensors for monitoring, Internet of things, Web 2.0 & Web 3.0, Decision support systems and the exploitation of the above informatics tools for the protection of forests and natural ecosystems, sustainability, energy sustainability, green energy, climate change mitigation and sustainable regional development

M33 Innovation and entrepreneurship in Natural environment

Teaching Staff: Trigkas M.
mailto: Trigkas M.: mtrigkas@for.auth.gr
Content: innovation. Entrepreneurship. Applications for natural environment

M34. Urban and Periurban green

Teaching Staff: Tsitsoni T., Alizoti P., Aravanopoulos F., Ganatsas P., Eleftheriadou E., Zagas Th., Theodoropoulos K., Barbas E., Papaioannou A., Skaltsogiannis A., Tsoulfa Th., Tsaktsira M.
mailto: Tsitsoni T.: tsitsoni@for.auth.gr
Content: The course provides postgraduate education in holistic practicing of Urban Forestry. Thus, the graduates acquire the necessary scientific knowledge in complex issues on urban green and green infrastructure. Under this prism, possible solutions given by the green infrastructure in environmental, social and economic matters, through their functional design and rational management, are examined.

M35. Mountain soils: Management, Protection, Improvement and Restoration of their Functions

Teaching Staff: Papaioannou A.
mailto: Papaioannou A.: apapaioa@for.auth.gr
Content: Physical, chemical and biological properties of mountain forest soils. Soil management methods of protected forest areas. Improvement of the fertility and productivity of degraded soils after fire, deforestation, erosion. Restoration of degraded mountainous soils from intense exploitation and grazing.

SPRING SEMESTER

M36 Environmental Policy and Sustainable Development - Tourism

Teaching Staff: Tambakis S., Andreopoulou Z., Skoufa E.
mailto: Tambakis S.: stampaki@for.auth.gr
Content: Major environmental problems. Environmetal policy under the focus of sustainable development. Sustainable development aspects and international summits Mass tourism, alternative tourism and environmental impact Tourism and recreation Information technologies in tourism, etourism and tourism sustainabillity

M37: Utilization of rangelands and agroforestry systems

Teaching Staff: Parissi Z., Abraham E.
mailto: Parissi Z.: pz@for.auth.gr
Content: Rangelands as social-ecological systems, Heterogeneity of rangeland ecosystems as the basis of management, Structural Composition and classification and Technical establishment of Agroforestry systems, Ecological consequences of climate change on utilization of rangeland and agroforestry ecosystems, Multidimensional Management of ecosystem services for agroforestry and their exploitation.

M38. Management of Biological Resources of Inland Waters – Wetlands

Teaching Staff: Kokkinakis A., Vlachos Ch., Apostolidis A.
mailto: Kokkinakis A.: akokkin@for.auth.gr
Content: Hydrobiology of inland water ecosystems as the rivers, the lakes and the wetlands. About phytoplankton, zooplankton and benthic organisms, in general. Methods of sampling and analysis of hydrobiological parameters. Nekton, composition and ecological adaptations. Principles of fish population management. Fisheries productivity, limiting factors and food chains. Principles of rational fisheries management in inland waters. Fisheries management with extensive and semi-intensive methods. Improvements of Inland waters for well living conditions of fish, fish shelters, and improvements of breeding sites. Legislation concerning the fisheries in Inland waters and wetlands.

M39. Population Genetics, Quantitative Genetics, Application of Genomics to Improvement, Special Improvement Issues

Teaching Staff: Scaltsoyiannes A., Aravanopoulos F., Barbas E., Alizoti P., Tsaktsira M., Tsoulpha P.
mailto: Scaltsoyiannes A.: skaltsoy@for.auth.gr
Content: Quantitative determination of genetic composition of populations, Mating systems and inbreeding, Forces that change allele frequencies, Joint effects of evolutionary forces, Parent and offspring phenotype patterns, Genetic variability and heredity, Genetic correlations, Genotype-environment interaction, Genetic parameter assessment, Structural genomics, Comparative genomics, Bioinformatics and databases, Concepts of selection by genetic markers (MAS), Indirect selection based on genes encoding target traits, Biotic and abiotic stresses and genetic resilience.

M310. Applied Silviculture - Reforestations and Forest Nurseries

Teaching Staff: Zagas Th., Tsitsoni T., Gkanatsas P., Tsakaldimi M., Pipinis E.,
mailto: Zagas Th: zagas@for.auth.gr
Content: Recent achievements of Silviculture and silvicultural planning, Reforestations and Forest Nurseries, Planning of post fire regeneration and restoration of burnt ecosystems, Ecology and treatment of tree lines, Transformation of artificial, pure conifer forests to mixed forests, aiming to the improvement of their ecological stability and the fulfilment of their multifunctional role. Forest nurseries and production of high quality plant materials,

Development of standard markings in coniferous forests, Development of standard markings in broad leaves forests, Solutions for current forestry problems.

M311. Adaptive forest management

Teaching Staff: Nanos N., Gitas I.
mailto: Nanos N.: nikosnanos@for.auth.gr
Content: A dynamic approach to forest management in which the effects of treatments and decisions are continually monitored and used, along with research results, to modify management on a continuing basis to ensure that objectives are being met, including in detail: 1) Introduction - Presentation of the course, 2) The management / stand map, 3) Calculation of stand types and characteristics of the study area, 4) Adaptive management and the role of recurring forest inventories, 5) Assessment of key climatic parameters in adaptive management, 6) Development of mixed stand management models in the context of adaptive management, 7) Design of management measures based on mixed - stand management models