"FOREST FIRE PROTECTION" SYLLABUS

Basic data of the subject	
Academic Unit:	**Life and Environmental Sciences Faculty**
Course title:	**Forest fire protection**
Program:	**Forestry and Environmental Sciences**
Level:	**Bachelor**
Course status:	**Compulsory**
Study year:	**Third year, second semester**
Number of hours per week:	**3+2**
Credit value – ECTS:	**6**
Time / location:	**To be announced**
Lecturer:	**Prof. Asoc .Dr. Mirvjena Kellezi**
Contact details:	**mirvjena.kortoci@uni-prizren.com**
Course description:	This course aims to introduce students to the major firefighting issues facing our planet's forests. Generalities on forest fires. Mediterranean forests vegetation and specific climatic conditions that favor fires in these territories. Some pathologies and damages from insects on forest trees that create favorable conditions for fire occurrence. Causes of fires of accidental and cyclical nature. Determination of possible fire areas, establishment of a warning signaling system. Fire prevention measures: silvotechnical, mechanical and special measures. Measures to limit a fire. Effects of combustion on the biocenosis of forest ecosystems. Effects of massive combustion of forests in air pollution. Mechanization and motorization of the process of extinguishing forest fires. Security equipment during localization and extinction of forest fires. Legislation and institutions responsible for the protection of forests from the fire.
Course objectives:	The purpose of this subject is to support the recognition of the forest structure and the effects that cause some natural but also accidental causes by humans. It relies on the recognition of local and European legislation on forest protection as well as potential causes that may lead to forest fires.
Learning outcomes:	Upon completion of this course, students will be able to: 1. Define the concept of forest fires. 2. Preview the necessary infrastructure that is being built in order to prevent and suppress the fire. 3. Classify and monitor the damage caused by forest fires. 4. Judge on the development of awareness campaigns and the use of efficient mechanisms in the protection of forests from fires. 5. To combine the methods learned for the concrete prevention of fires.

Contribution on student load (must correspond with learning outcomes)			
Activity	**Hours**	**Days/week**	**Total**
Lectures	3	15	45
Exercise theoretical/laboratory	2	15	30
Practice work	-	-	-
Contact with lecturer/consultations	1	15	15
Field exercises	1	15	15
Mid-terms, seminars	2	-	2
Homework	-	-	-
Individual time spent studying (at the library or home)	1	15	15
Final preparation for the exam	1	15	15
Time spent in evaluation (tests, quiz, final exam)	2	5	10
Projects, presentations, etc.	3	-	3
Total			**150 hours (6 ECTS)**
Teaching methods :	Lectures, discussions, laboratory exercises, outdoor research exercises, consultations, independent projects, homework assignments, colloquia, seminars. Assessments (I & II), exams.		
Evaluation methods:	First assessment: 10%, Second assessment: 10%, Seminars or other engagements: 10%, Final exam: 70%, Total: 100%.		
Literature			
Basic Literature:	Département Gestion des territoires, Division Agriculture et Forêt Méditerranéennes"International Handbook on Forest Fire Protection Technical guide for the countries of the Mediterranean basin. Miltiadis Athanasiou" Forest fires: management, characteristics and prediction". Regional Fire Monitoring Center "Forest Fires in South Eastern Europe, Regional Report".		
Additional Literature:	Peter Hirschberger (2016). Causes and effects of global forest fires.		

Designed study plan:		
Week	**Lectures**	**Exercises**
First week:	Introduction. Burning. Heat transfer methods. What is self-ignition, and what is	Practical demonstration on heat transfer. How to distinguish between self-ignition and ignition. Practical

	considerd ignition? Stages of wood burning and combustion products. What is wood burning?	demonstration on wood combustion stages and combustion products.
Second week:	Wood burning products. Causes of fire appearance. Forest fires in Kosovo. Responsible institutions and legal framework.	Presentation of various statistics (by lecturer and students) on fires and fire causes in Kosovo and in general. Familiarity with the responsible institutions of Kosovo and the legal framework. Practical on the classification of forest fires.
Third week:	Causes of fire appearance. Forest fires in Kosovo. Responsible institutions and legal framework.	Study of the impact of vegetation type, topography, seasons and climate on the occurrence and development of fires (direction, velocity and intensity). Intermediate exam over the classification of forest fires.
Fourth week:	Forest fires classification. Factors that increase the risk of occurrence and development of fires (direction, speed and intensity).	The study of the occurrence of various factors such as forest type composition, density or distribution of combustible material that influence the increased risk for fire occurrence and development.
Fifth week:	Factors that increase the risk of occurrence and development of fires (direction, speed and intensity).	Practical demonstrations, by key stakeholders in Kosovo (forest service) involved in combating forest fires, on measures to prevent these fires.
Sixth week:	Factors that increase the risk of occurrence and development of fires (direction, speed and intensity). Forest fires prevention measures.	Practical demonstrations, by key stakeholders in Kosovo (municipalities) involved in combating forest fires, on measures to prevent these fires (preventive, preparatory and direct measures).
Seventh week:	Forest fires prevention measures.	Concretization by video and field trips of direct measures (by land, water, chemicals, explosives etc.) for localization and suppression of forest fires.
Eighth week:	Forest fires prevention measures.	Concretization through video and field trips of forest fire suppression tools and equipments. Two-legged tactics, anti-fire barriers (corridors) , anti-fire, aerial bombardment etc.
Ninth week:	Localization and extinction of forest fires tactics.	Examples and concretizations of individual, group and progressive displacement of firefighters along the defensive line.

Tenth week:	Localization and extinction of forest fires tactics.	Video and field demonstrations of individual, group and progressive firefighting displacement along the defensive line.
Eleventh week:	Firefighters displacement along the defensive line.	Establishment, organization and participating actors in the headquarters leading the fire localization and suppression action.
Twelfth week:	Firefighters displacement along the defensive line.	Suitable clothing and equipment to avoid firefighting accidents in locating and suppressing forest fires.
Thirteenth week:	Organization of localization and extinction of wider forest fires.	Intermediate course exam on localization and extinction of forest fires tactics. Firefighter's displacement along the defensive line. Principles and safety equipment during localization and extinction of forest fires. Course Assignment-Evidence of a burnt forest surface. Analysis of the causes and measures taken in that case.
Fourteenth week:	Organization of localization and extinction of wider forest fires.	Course Assignment-Evidence of a burnt forest surface. Analysis of the causes and measures taken in that case.
Fifteenth week:	Principles and safety equipment during localization and extinction of forest fires.	Course Assignment-Evidence of a burnt forest surface. Analysis of the causes and measures taken in that case.
Academic policies and rules of conduct:		
Students are obliged to attend regular lectures, participate in field visits (excursion). Disconnection of mobile phones, timely access to the classroom and keeping quiet in the lesson are also mandatory.		