

## KM651 - FOREST FIRES

<b>LEVEL</b>	<i>Undergraduate</i>		
<b>CODE</b>	KM651	<b>STUDENT SEMESTER</b>	6th
<b>COURSE TITLE</b>	Forest Fires		
<b>ACTIVITIES</b>		<b>WEEKLY HRS</b>	<b>ECTS</b>
		Lectures	3
		<b>TOTAL</b>	<b>3</b>
			<b>5</b>
<b>TYPE OF COURSE</b>	Compulsory course / Generic knowledge		
<b>PREREQUISITES:</b>	None		
<b>LANGUAGE TEACHING AND EXAMINATION:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	No		
<b>WEBPAGES COURSE (URL)</b>			

### 1. LEARNING OUTCOMES

#### Learning Outcomes

The aim of this course is to provide students with knowledge related to the impact of forest fires on ecosystems, their ecological role, the forest fire management, the forest fire behavior, and the firefighting tactics and equipment.

Upon completion of the course, students will be able to:

- classify forest types based on their capacity to adapt to fires
- describe and classify the various types of fuel
- design forest fire prevention plans

#### General Skills

- Researching and performing analysis and synthesis of data and information by means of appropriate technology.
- Decision-making
- Respect for natural environment
- Encouragement of free, constructive, and deductive reasoning

### 2. COURSE CONTENT

Forest fires in Greece (causes, temporal parameters, topographic, vegetative and meteorological conditions) - Ecology of forest fires (impact on plants, on ecosystems and soil) - Forest fire behavior (thermodynamics principles, fuel parameters of forest fires, fuel models, nomograms) - Fuel (natural and chemical properties, humidity content, fuel management) - Forest fire management (prescribed burning, firebreaks, fire risk assessment management systems) - Firefighting tactics and equipment (fire suppression methods, ground and aerial firefighting vehicles, fire suppression chemicals) - Assessment of fire behavior (Behave software, Nexus) - Nomograms (problem solving for the assessment of forest fires in Mediterranean areas) - Humidity content of fuel (estimation by the use of weight/drying method)

### 3. TEACHING AND LEARNING METHODS - EVALUATION

<b>DELIVERY METHOD</b>	A combination of various methods and techniques is
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	employed, which aim to enhance active participation of students, while providing optimal effectiveness in face to face teaching: Content-rich presentations, questions & answers, discussion, exercises, teamwork.										
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Flexible use of teaching aids based on information technology (multimedia, PC), video data projector, video presentation stand, internet, e-class platform										
<b>MANAGEMENT OF TEACHING</b>	<table border="1"> <thead> <tr> <th><i>Activity</i></th> <th><i>Semester Workload</i></th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>65</td> </tr> <tr> <td>Individual and work study for term assignment</td> <td>60</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td><b>Course Total</b></td> <td><b>125</b></td> </tr> </tbody> </table>	<i>Activity</i>	<i>Semester Workload</i>	Lectures	65	Individual and work study for term assignment	60			<b>Course Total</b>	<b>125</b>
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<b>Course Total</b>	<b>125</b>										
<b>STUDENT EVALUATION</b>	Student assessment takes place at the end of the semester by means of written examination which follows the format of all courses offered at the Department. By prior agreement, students can also be assessed by means of progress tests that take place on a mutually agreed date during the semester, according to the Department schedule.										

#### 4. RECOMMENDED BIBLIOGRAPHY

Books offered to students through the *Eudoxus* platform:

- Kailidis D. and P. Karanikola. 2005. Forest Fires in Greece. Thessaloniki: Giahoudis. (Eudoxus code: 7945)
- Konstantinidis P. 2003. Learning to Live with Forest Fires. Thessaloniki: Kyriakidis Publications. (Eudoxus code: 59389424)
- Gofas A. 2001. Forest Conservation. Thessaloniki: Giahoudis-Giapoulis Publications. (Eudoxus code: 7943).

Books offered besides the *Eudoxus* platform:

- Brown A.A. and K.P. Davis. 1973. Forest Fire: Control and Use. McGraw Hill, New York.
- Pyne S.J., P.L. Andrews and R.D. Laven. 1996. Introduction to Wildland Fire, 2nd edition. John Wiley & Sons, Inc., New York.
- Wright H.A. and A.W. Bailey. 1982. Fire Ecology. John Wiley & Sons, Inc., New York.