



Universidad Juárez del Estado de Durango
Faculty of Forestry Sciences
Forestry Sciences Engineering



Units Learning Modules
Focused in Integral Professional Competences

I. GENERAL LEARNING UNIT

1. Identification	2. Code	3. Semester	4. Training area
Fire Management	TOP-44- TOP47	7TH-8TH	Forest Restoration

5. Mode					
Compulsory		Elective	X		
Classroom	X	Non-Attendance		Mixed	
Laboratory		Field practices	X	Guided tours	

6. Class shedule (hours per week)				
Theory	Practice	Independent study	Total hours	Credits
2	2	2	6	6

7. Person responsible for the Unit Learning
Juan Carlos Herrera Cárdenas

II. DATA SPECIFIC LEARNING UNIT

8. Objectives
Learning of fire management unit is optional and is located within the line course of forest restoration of forest resources of the educational program of engineer in forestry. Designs, executes, and evaluates plans and programs to conserve and restore forest ecosystems and ensuring its sustainability. • Development of skills for the comprehensive management of the fire in the forests. • Know and apply the factors that determine the intensity of the fire • Learn and apply various methods of prevention and detection of forest fire. • Applies various methods for the proper analysis of forest fires.

9. Presentation.
The uncontrolled fire represents one of the most serious problems in our country and is the

main cause of deforestation, every year we lose thousands of hectares by this factor of destruction, causing various damage to the Mexican forest, causing various impacts as, affecting species, social impact, economic impact and ecological impacts.

As a predisposing factor for diseases, fire influences the composition, structure and function of the ecosystem and affects a large part of its components: soil, water, air, vegetation, wild life and microorganisms. This in turn affects availability of limiting factor such as direct solar radiation, temperature, nutrients and water.

It is for this reason that the engineer in forest sciences should know how to manage the fire in the forests in order to be able to design methods and models for the prediction of fire.

10. Professional competences to develop in students.

Knowledge	Skills	Attitudes	Values
- Knowledge about the elements of fire and heat propagation mechanisms - Meet and learn from Causes of forest fires. - Understanding the Importance about the study of the factors that determine the intensity of the fire - Meet methods of prevention and detection, and fight of forest fire	- Discussion and analysis of the elements of fire - Analyse the different causes of forest fires, and mechanisms of propagation of heat - Skills to apply methods of evaluation of forest fires - Planification to fight forest fires, prevention and detection of forest fire and methods of fighting forest fires	- Interest in preserving and protecting the forest - Collaboration and participation in team Works. - Change of attitude and awareness of environmental problems - Contributes to sustainable development in a manner critical and responsible actions.	- Respect and love for the nature and the environment - Acting with honesty responsibility - Commitment to preserving the environment - Protect and conserve the environment and nature with sense ethics and humanist

11. Course topics

MODULE I.- Elements of fire. Fire triangle
MODULE II: Combustion process.
MODULE III. Forms or propagation mechanisms of heat
MODULE IV.- Heat intensity.
MODULE V.- Types of forest fires
MODULE VI.- Causes of forest fires
MODULE VII.- Analysis of forest fires
MODULE VIII.- Factors that determine the intensity of the fire.
MODULE IX.- Integral handling of the fire
MODULE X.- Plans to fight forest fires
MODULE XI.- Prevention and detection of forest fires
MODULE XII.- Methods of fighting forest fires

12. Evaluation criteria

Formative evaluation	30%
Summative evaluation.....	30%
Self assessment	10%
Co-evaluation	10%
Evaluation hetero.....	20%

Acreditaton

Performing activities	40%
Exams	20%
Homeworks	20%
Analysis scientifics articles	20%

13. Information sources

Basic

CONAFOR, (2006). Incendios Forestales Guía Práctica para Comunicadores. Zapopan Jal. México.

DIARIO OFICIAL DE LA FEDERACION (2007).- NORMA Oficial Mexicana NOM-015-SEMARNAT/SAGARPA-2007.

DIARIO OFICIAL DE LA FEDERACION (2014).- Programa Nacional Forestal 2014-2018.

<http://biblioteca.semarnat.gob.mx/janium/Documentos/Ciga/agenda/PPD02/DO330>

FLORES, G, J.G, RODRIGUEZ T, (2006).- Incendios Forestales. Grupo Mundi-Prensa, S.A. de C.V.

VELEZ, R. (2000).- La Defensa Contra Incendios Forestales. Fundamentos y Experiencias. McGraw-Hill Interamericana de España, S.A.U.

Complementary

Biblioteca Digital de la SEMARNAT .<http://biblioteca.semarnat.gob.mx>.

<http://biblioteca.semarnat.gob.mx/janium/Documentos/Ciga/agenda/PPD02/DO3305.pdf>.