

Module/Course Description

Forest Protection (SVK 232)

A. Module Identity		
1.	Name	Forest Protection
2.	Code	SVK 232
3.	Credit	3 (2-3)
4.	Semester	3 or 4
5.	Pre-requisite	Biology
6.	Coordinator	Prof. Dr. Ir. Achmad, MS
7.	Lecturers	1. Prof. Dr. Ir. Achmad, MS 2. Prof. Dr. Ir. Bambang Hero Saharjo, M.Agr 3. Dr. Ir. Lailan Syaufina, MSc 4. Dr. Ir. Noor Farikhah Haneda, MS 5. Dr. Ir. Elis Nina Herliyana, MS 6. Dr. Yunik Istikorini, SP, MP 7. Dr. Erianto Indra Putra, SHut, MS 8. Ati Dwi Nurhayati, SHut, MSi 9. M. Alam Firmansyah, SHut, MSi 10. Lufthi Rusniarsyah, SP, Msi
8.	Language	Indonesian
9.	Program(s) in which the course is offered	Internal department: Forest Management Study Program Other departments: Forest Technology Study Program, Forest Resource Conservation and Ecotourism Study Program, Silviculture Study Program
10.	Type of teaching	a. Traditional classroom: 100 % b. Blended system: Traditional classroom....%, Online....% c. e-Learning system:% d. Others:%

B. Workload of course components (total contact hours and credits per semester)								
Credit		Contact Hours**				Self-Study	Other	Total
SKS *)	ECTS	Lecture	Class Exercise	Laboratory	Field Practice			
3		28	42			56		126

*) Semester credit unit according to the Indonesian higher educational system

1 credit unit lecture = 2 hours/ week for lecture and 2 hours/ week for self-study within 14 weeks/ semester

1 credit unit class exercise or laboratory or field practice = 3 hours/week within 12-14 weeks/semester

***) 1 hour for lecture= 50 minutes; 1 hour for class exercise or laboratory or field practice = 60 minutes

C. Module Objective (Learning Outcomes)
By the end of this study, the students are able to explain and explore the factors of forest encroachment, including the cause, process, impact of forest encroachment and its control methods.

D. Detailed Course Learning Outcomes (LO) in Relation to Learning Domains, Teaching Strategies, and Assignment Methods			
No.	LO in Learning Domains	Teaching Strategies	Assessment Methods
a. Knowledge			
1.	Students are able to explain study plan and material of forest protection subject, the meaning and study scope of the forest pest science, the way of insect adaptation, the role of insect and work procedure of the forest pest science.	Presentation, discussion, practice	Authentic assessment
2.	Students are able to explain the environmental factors that influence insect life and the process of pest existing in forest ecosystem.	Presentation, discussion, practice	Authentic assessment
3.	Students are able to explain the impacts of pest attack in forest ecosystem	Presentation, discussion, practice	Authentic assessment
4.	Students are able to explain the forest pest controlling	Presentation, discussion, practice	Authentic assessment
5.	Students are able to explain the illegal logging, theft of forest products, land grabbing, and illegal live-stock grazing in forest.	Presentation, discussion, practice	Authentic assessment
6.	Students are able to explain the meaning and study scope of Forest Disease Science and impacts of its attack	Presentation, discussion, practice	Authentic assessment
7.	Students are able to explain the process of disease existing in the forest	Presentation, discussion, practice	Authentic assessment
8.	Students are able to explain the epidemiology of forest disease	Presentation, discussion, practice	Authentic assessment
9.	Students are able to explain the forest disease controlling	Presentation, discussion, practice	Authentic assessment
10.	Students are able to explain the process of forest fire	Presentation, discussion, practice	Authentic assessment
11.	Students are able to explain fire behaviour and influenced factors	Presentation, discussion, practice	Authentic assessment
12.	Students are able to explain the impacts of forest fire	Presentation, discussion, practice	Authentic assessment
13.	Students are able to explain the forest fire controlling and fire usage	Presentation, discussion, practice	Authentic assessment
b. Skills			
1.	Students are able to explore the impacts of pest attack in forest ecosystem and give examples of its cases in Indonesia	Presentation, discussion, practice, homework	Authentic assessment
2.	Students are able to explore the forest pest controlling and its techniques	Presentation, discussion, practice, homework	Authentic assessment
3.	Students are able to explore and give examples the cases of the illegal logging, theft of forest products, land grabbing, and illegal live-stock grazing in forest.	Presentation, discussion, practice, homework	Authentic assessment
4.	Students are able to explore the process of disease existing in the forest	Presentation, discussion, practice, homework	Authentic assessment
5.	Students are able to explore the epidemiology of forest disease and the forest disease controlling	Presentation, discussion, practice,	Authentic assessment

		homework	
7.	Students are able to explore the process of forest fire and demonstrate a practice to explore fire behaviour and influenced factors	Presentation, discussion, practice, homework	Authentic assessment
9.	Students are able to explore the impacts of forest fire and give examples of its cases in Indonesia	Presentation, discussion, practice, homework	Authentic assessment
c. Competences:			
1.	Students demonstrate a willingness to participate in the class activities	Presentation, discussion, practice	Authentic assessment
2.	Students are able to complete all tasks and participate in class discussion	Presentation, discussion, practice, homework	Authentic assessment

E. Module Content

List of Topic	Number of Weeks	Contact Hours
Contract of lecture, the meaning and scope of forest protection	1	2
Environmental factors of insect life and the process of forest pests existing	1	2
Impact of forest pest attacks	1	2
Methods of forest pest control	1	2
Forest disturbances: causes, impacts and ways to control the theft of forest products, forest encroachment and wild grazing	2	4
The meaning and scope of Forest Disease Science and impact of forest diseases	1	2
The process of forest disease	1	2
Epidemiology of forest diseases	1	2
Methods of forest disease control	1	2
The process of forest fuel fire	1	2
Fire behavior	1	2
Impact of Forest Fire	1	2
Controlling of forest fire control and usage of fire	1	2

F. Course Assessments

No.	Assessment Type *)	Schedule (Week Due)	Proportion of the Final Mark
1.	Mid-term Examination	The 8 th week	35%
2.	Final Examination	The 16 th week	35%
3.	Practical Report	Minimal 6 times in a semester	20%
4.	Homework	Minimal 2 times in a semester	10%

*) Example: mid-term examination, final examination, quiz, homework, project, etc.

G. Media Employed

Laptop, LCD, Microphone, White Board, Marker, Pointer

H. Learning Resources

- h1. Textbooks:**
- Agrios GN. 1969. *Plant pathology*. New York (US): Academic Press.
- Boyce JS. 1948. *Forest pathology*. 3rd ed. New York (US): McGraw Hill Book Co. Inc.
- Brown AA, Davis KP. 1973. *Forest fire: Control and use*. New York (US): McGraw Hill Book Co. Inc.
- Chandler P, Cheney P, Thomas P, Trabaud L, Williams D. 1983. *Forest fire Vol I: Forest fire behaviour and effects*. New York (US): John Wiley & Sons.

6. Chandler P, Cheney P, Thomas P, Trabaud L, Williams D. 1983. *Forest fire Vol II : Forest fire management and organizations*. New York (US): John Wiley & Sons.
7. Coulson RN, Witter JA. 1984. *Forest entomology: Ecology and management*. New York (US): John Wiley & Sons.
8. DeBano LE, Neavy DG, Ffolliott PE. 1998. *Fire's effects on ecosystems*. New York (US): John Wiley & Sons.
9. Graham K. 1963. *Concepts of forest entomology*. New York (US): Reinhold Pub. Co.
10. Hawley RP, Stickel WP. 1956. *Forest protection*. New York (US): John Wiley & Son.
11. Husaeni EA. 2008. *Pengantar Perlindungan Hutan (hand out)*
12. Husaeni EA. 2008. *Perladangan berpindah (hand out)*
13. Husaeni EA. 2008. *Penggembalaan liar (hand out)*
14. Husaeni EA. 2008. *Pencurian hasil hutan (hand out)*
15. Ilag LL. 1983. *Learning the principles of plant pathology*. NFAC-UPLB Countryside Action Program, UPLB at Los Banos College, Laguna.
16. Manion PD. 1981. *Tree disease concepts*. Prentice-Hall Inc. New Jersey (US): Englewood Cliffs.
17. Suratmo FG. 1982. *Ilmu Perlindungan Hutan*. Bogor (ID): Fakultas Kehutanan IPB.
18. Syaufina L. 2008. *Kebakaran hutan dan lahan di Indonesia: Perilaku api, penyebab dan dampak kebakaran*. Malang (ID): Bayumedia Publishing.
19. Sunjaya PI. 1970. *Dasar-dasar ekologi serangga*. Diktat, Fakultas Pertanian IPB.