

Module/Course Description

Silviculture (SVK 322)

A. Module Identity		
1.	Name	Silviculture
2.	Code	SVK 322
3.	Credit	3 (2-3)
4.	Semester	5
5.	Pre-requisite	-
6.	Coordinator	Prof. Dr. Ir. Sri Wilarso Budi, MS
7.	Lecturers	1. Prof. Dr. Ir. Sri Wilarso Budi, MS 2. Prof. Dr. Ir. Iskandar Z Siregar, MForSc 3. Dr. Ir. Arum Sekar Wulandari, MS 4. Dr. Ir. Irdika Mansur, MForSc 5. Dr. Ir. Cahyo Wibowo, MScFTrop 6. Dr. Ir. Prijanto Pamoengkas, MScFTrop 7. Ir. Andi Sukendro, 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, students are able to explain and identify the process of tree growth and its regeneration	

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 the study scope of silviculture and tree growth	Lecturer's explanation, discussion	Authentic assessment
2.	Students are able to explain the factors of tree growth	Lecturer's explanation, discussion	Authentic assessment

3.	Students are able to explain the ecophysiology of tree	Lecturer's explanation, discussion	Authentic assessment
4.	Students are able to explain the requirements to manage plantation forest	Lecturer's explanation, discussion	Authentic assessment
5.	Students are able to construct the plantation forest establishment plan in large scale as well as small scale	Lecturer's explanation, discussion	Authentic assessment
6.	Students are able to make a plan and demonstrate in qualified seed production	Lecturer's explanation, discussion	Authentic assessment
7.	Students are able to explain the techniques of plants establishment	Lecturer's explanation, discussion	Authentic assessment
8.	Students are able to explain the techniques of land rehabilitation	Lecturer's explanation, discussion	Authentic assessment
9.	Students are able to explain the techniques of plants maintenance	Lecturer's explanation, discussion	Authentic assessment
10.	Students are able to explain the method of pruning in plantation forest	Lecturer's explanation, discussion	Authentic assessment
11.	Students are able to explain the thinning treatment in plantation forest	Lecturer's explanation, discussion	Authentic assessment
12.	Students are able to explain silviculture systems	Lecturer's explanation, discussion	Authentic assessment
b.	Skills		
1.	Students are able to demonstrate the way of working in the laboratory and working in group	Presentation, discussion, practice	Authentic assessment
2.	Students are able to estimate transpiration of tree	Presentation, discussion, practice	Authentic assessment
3.	Students are able to construct plantation forest establishment plan	Presentation, discussion, practice	Authentic assessment
4.	Students are able to demonstrate seed extraction of several species (<i>Legum</i> and non <i>Legum</i>).	Presentation, discussion, practice	Authentic assessment
5.	Students are able to demonstrate the seed storage techniques, break dormancy and germination of tree seeds	Presentation, discussion, practice	Authentic assessment
6.	Students are able to demonstrate and practice to prepare and produce good nursery media and to wean seeds into nurseries	Presentation, discussion, practice	Authentic assessment
7.	Students are able to demonstrate and practice the techniques of vegetative breeding	Presentation, discussion, practice	Authentic assessment
8.	Students are able to demonstrate and practice the techniques of seedling maintenance in nursery	Presentation, discussion, practice	Authentic assessment
9.	Students are able to demonstrate and practice the seed selection and transport it to the field	Presentation, discussion, practice	Authentic assessment
10.	Students are able to demonstrate and practice the techniques of seedling planting	Presentation, discussion, practice	Authentic assessment
11.	Students are able to demonstrate and practice the techniques of pruning, weeding, and sowing (<i>pendangiran</i>)	Presentation, discussion, practice	Authentic assessment
12.	Students are able to demonstrate and practice techniques of stands thinning	Presentation, discussion, practice	Authentic assessment
13.	Students are able to demonstrate and practice the technique of natural tillers inventory as part of silviculture system activities	Presentation, discussion, practice	Authentic assessment

c. Competences:			
1.	Students demonstrate a willingness to participate in the class activities	Practical Training/ discussion	Authentic assessment
2.	Students are able to complete all tasks and participate in class discussion	Presentation, discussion, practice, assignment	Authentic assessment

E. Module Content

List of Topic	Number of Weeks	Contact Hours
Study scope of silviculture	1	2
The growth and reproduction of tree	1	2
Ecophysiology of tree	1	2
Requirement of plantation forest management	1	2
Plantation forest establishment plan	1	2
Technology of nursery	2	4
Establish the plants	1	2
Technique of land rehabilitation	1	2
Plants Maintenance	3	6
Silviculture systems	2	4

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 5 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:

1. Anonim. 1993. *Pedoman dan Petunjuk Teknis Tebang Pilih Tanam Indonesia (TPTI) pada Hutan Alam Daratan*. Jakarta (ID): Departemen Kehutanan, Direktorat Jenderal Pengusahaan Hutan.
2. Daniels TW, Helms JA, Baker FS. 1987. *Prinsip-Prinsip Silvikultur*. Yogyakarta (ID): Gadjah Mada University Press.
3. Departemen Kehutanan. 2003. *Eksekutif Data Strategis Kehutanan*. Jakarta (ID): Bidang Statistik Kehutanan-Departemen Kehutanan.
4. Departemen Kehutanan dan Perkebunan. 1999. *Panduan Kehutanan Indonesia*. Jakarta (ID): Koperasi Karyawan Dephutbun.
5. Dransfield S, Widjaja EA (Eds.). 1995. *Bamboos*. Bogor (ID): PROSEA.
6. Evans J. 1992. *Plantation Forestry in the Tropics*. Oxford (UK): Clarendon Press.
7. Hartmann HT, Kester DE, Davies FT. 1990. *Plant Propagation: Principles and Practices*. New Jersey (US): Prentice-Hall International.
8. Haygreen JH, Bowyer JL. 1989. *Hasil hutan dan Ilmu Kayu: Suatu Pengantar*. Yogyakarta (ID): Gadjah Mada University Press.
9. Kobayashi S. et al. (Eds.). 2001. *Rehabilitation of Degraded Tropical Forest Ecosystems*. Jakarta (ID): CIFOR.
10. Kozlowski TT, Pallardy SG. 1996. *Physiology of Woody Plants*. London (UK): Academic Press.
11. Lamprecht H. 1989. *Silviculture in the Tropics*. Deutsche Gesellschaft für Technische

Zusammenarbeit (GTZ) GmbH. Technical Cooperation-Federal Republic of Germany. Eschborn.

12. Prasetyo L. *et al.* (Eds.) 2003. *Survey on Silvicultural Techniques and Plantation Promoting Policies in Indonesia*. Bogor (ID): FORDA-JICA.
13. Manan S. 1976. *Silvikultur*. Bogor (ID): Proyek Pengembangan/Peningkatan Perguruan Tinggi IPB.
14. Matthews JD. 1989. *Silvicultural Systems*. Oxford (UK): Clarendon Press.
15. Oliver CD, Larson BC. *Forest Stand Dynamics*. New York (US): McGraw-Hill, Inc.
16. Princhett WL. 1979. *Properties and Management of Forest Soils*. New York (US): John Wiley & Sons.