

## **KSH 201 Natural Resources Conservation**

<b>Credit</b>	: 2(2-0)
<b>Semester</b>	: 3 (odd)
<b>Course format</b>	: Classroom lectures and individual assignment. 100 minutes per week. 14 weeks.
<b>Pre - requisite</b>	: -
<b>Lecturers</b>	: Prof. Dr. H. Sambas Basuni, MS (Course coordinator) Mr. H. Haryanto R. Putro, MS. Dr. H. Ervizal A.M. Zuhud, MS. Mr. Jarwadi B. Hernowo, MSc.F. Dr. Burhanuddin Masyud, MS. Dr. Agus Hikmat, MSc.F. Dr. Yenny A. Mulyani, MSc. Mr. Siswoyo, MSi

### **Course Description**

Indonesia is known for its wealth in tropical biodiversity, where most inhabit forest ecosystems. Currently tropical biodiversity is experiencing rapid degradation. This course will provide students with understanding of problems and threats related to natural resources conservation, rarity and extinction factors and their management. This course will also provide students with natural resources concept and principles of conservation ecology as the foundation for their management.

### **Course Objectives**

This course is designed to give students a fundamental understanding of forest resources conservation principles in facing the problems of biodiversity reduction at species, population, ecosystem and landscape levels.

### **Learning Outcomes**

#### **1. General learning outcomes**

Upon successful completion of this course the students will be able to:

- a. Explain the meaning, objectives and basic concept of natural resources conservation.
- b. Explain conservation problems, rarity and extinction factors.
- c. Explain basic principles and natural resources and their ecosystem conservation strategy

## **2. Specific learning outcomes**

Upon successful completion of this course the students will be able to:

- a. Explain conservation problems related to human behaviour and threats to biodiversity
- b. Explain the meaning, general definition, operational definition and objectives of natural resources and their ecosystems conservation
- c. Explain conservation motives, economic and social-philosophy foundations for conservation needs and background for conservation movement (Indonesia and world)
- d. Explain natural resources categories, and able to distinguish between natural resources and biodiversity
- e. Describe biodiversity and fluctuation principles as the foundations for their management
- f. Explain basics of conservation at various levels, including population, species, community and landscape levels
- g. Explain basic theories on rarity and extinction, reasons for rarity and extinction, characteristics of vulnerable species, including species rarity categories
- h. Explain conservation strategies at principle and operational levels in relation to natural resources and their ecosystem management

### **Structure of Course Delivery**

1. Classroom lectures and discussion. There will be five lecturers involve in this course.
2. Individual reading assignments.

### **Major References**

1. Borrini-Feyerabend, G. 1999. Collaborative Management of Protected Areas (in *Partnerships for Protection: New Strategies for Planning and Management for*

- Protected Areas* edited by Stolton, Sue and Nigel Dudley). IUCN-The World Conservation Union, Earthscan Publications Ltd, London. Pp: 224-234.
2. Brandon, K. E and Wells, M. 1992. Planning for People and Parks: *Design Dilemmas*. Journal World Development Vol. 20 No. 4. Pergamon Press Ltd., Great Britain. Pp:557-570
  3. Conservation. IUCN-The World Conservation Union, Gland-Switzerland. Pp: 215-222
  4. Hess Jr., Karl. 2001. Parks Are for People – But *Which* People? in *The Politics and Economics of Park Management*, Edited by Terry L. Anderson and Alexander James. Rowman and Littlefield Publisher, Oxford. Pp. 159-181.
  5. IUCN. 1992. Protected Areas and Demographic Change: *Planning for the Future (A Working Report of Workshop 1.6)*. IV<sup>th</sup> World Congress on National Parks and Protected Areas held in Caracas, Venezuela 10-21 February 1992, IUCN The World Conservation Union, Gland, Switzerland.
  6. Lewis, C (Ed.). 1996. *Managing Conflicts in Protected Areas*. IUCN The World Conservation Union, Gland-Switzerland.
  7. MacKinnon, J., MacKinnon, K., Child, G and Thorsell, J. 1986. *Managing Protected Areas in the Tropics*, International Union for Conservation of Nature and Natural Resources (IUCN). Gland-Switzerland.
  8. McNeely, J. A. 1999a. *Mobilizing Broader Support for Asia's Biodiversity: How Civil Society can Contribute to Protected Area Management*. Asian Development Bank – The World Conservation Union, Manila, the Philippines.
  9. Meganck, R A., and Saunier, R. E. (Eds.). 1995. *Conservation of Biodiversity and the New Regional planning*. Department of regional Development and Environment, Executive Secretariat for Economic and Social Affairs, General Secretariat of Organization of American States – IUCN The World Conservation Union.
  10. Sayer, J. 1991. *Buffer Zones in Rainforest: Fact or Fantasy?*. PARKS the international magazine dedicated to the protected areas of the world. Vol. 2 No. 2, July 1991 (System Planning): 20-24.
  11. UNDP/FAO National Park Development Project. 1982. *Rencana Konservasi Nasional Jilid I: Pendahuluan, Metoda Evaluasi dan Tinjauan Kekayaan Alam* (berdasarkan karya John MacKinnin-FAO).
  12. Wells, M and Brandon, K. E. (with Lee Hannah). 1995. *People and Parks: Linking Protected Area Management with Local Communities* (3<sup>rd</sup> Ed.). The World Bank, WWF, and USAID, Washington, D.C.

13. Westley, Frances, Seal, U., Byers, O and Ness, G. D. People and Habitat Protection. PARKS Protected Areas Programme (the International Journal for Protected Area Managers Vol. 8 No 1. February 1998). IUCN – The Conservation Union, Hambridge – UK (p:15-26).

### Teaching Material Support

The choice of media and type of technology use include:

1. Face-to-face contact.
2. Printed power point presentation.
3. Computer
4. Projector Infocus

### Course Outline

Topic	Sub-topics	Bloom's Taxonomy	Week
Introduction	<ol style="list-style-type: none"> <li>1. Natural resources problems: Human behaviour and tragedy of common</li> <li>2. Threats to biodiversity</li> <li>3. Scope and linkages with other courses</li> <li>4. Course conduct</li> </ol>	C1	1
Meaning, definition and objectives of natural resources conservation	<ol style="list-style-type: none"> <li>1. Meaning of conservation</li> <li>2. General definition</li> <li>3. Operational definition</li> <li>4. Objective of natural resources conservation</li> </ol>	C1	2
Conservation movement	<ol style="list-style-type: none"> <li>1. Conservation motives</li> <li>2. Arguments for conservation reasons (economic and social philosophies)</li> <li>3. History of conservation</li> </ol>	C1, C2	3 & 4
Natural resources concept	<ol style="list-style-type: none"> <li>1. Natural resources category</li> <li>2. Biological resources</li> <li>3. Biodiversity</li> </ol>	C1, C2	5 & 6
Principles of conservation ecology	<ol style="list-style-type: none"> <li>1. Principles of diversity</li> <li>2. Principles of population fluctuation</li> </ol>	C1, C2	7 & 8
Basic concepts of natural resources conservation	<ol style="list-style-type: none"> <li>1. Conservation at population and species levels</li> <li>2. Conservation at community level</li> <li>3. Conservation at landscape level</li> </ol>	C1	9 & 10
Rarity and extinction	<ol style="list-style-type: none"> <li>1. Rarity theory</li> <li>2. Extinction theory</li> <li>3. Reasons for rarity and extinction, and estimated extinction</li> <li>4. Characteristics of vulnerable species</li> <li>5. Categories of species rarity</li> </ol>	C1	11 & 12
Natural resources conservation	<ol style="list-style-type: none"> <li>1. Priority for life support system protection</li> <li>2. Priority for genetic diversity preservation</li> </ol>	C1, C2	13 & 14

Topic	Sub-topics	Bloom's Taxonomy	Week
strategy	3. Priority for sustainable utilization		

### Potential Course Overlap

Minimum overlapping will occur with similar topics offered in other courses, including Wildlife Behaviour (KSH212), Wildlife Management (KSH417), Inventory and Monitoring of Wildlife (KSH314). Overlapping is also possible with courses that offer topics related to ecological principles, such as Forest Ecology (interdepartmental course – SVK212), Wildlife Ex-Situ Conservation (KSH213) and Outdoor Recreation and Ecotourism (KSH251).

### Evaluation and Grading

#### 1. Mid-term examination

Mid-term examination will be held during examination period scheduled by Registrar's office (after 7 weeks lecture). The exam will cover course topics delivered in week 1-7. Exam is composed of various types of questions (multiple choice, short answers and essays with major composition in essays).

#### 2. Final examination

Final examination will be held during examination period scheduled by Registrar's office (after 14 weeks lecture). The exam will cover course topics delivered for 14 weeks, with majority will be taken from topics delivered during week 8 to 14. Exam is composed of various types of questions (multiple choice, short answers and essays with major composition in essays).

#### 3. Assigned Paper

Each student is required to submit a review paper relevant to a course topic discussed. This assigned paper is objected to help students make the connections between lecture materials and real life applications. Research using library, internet and other resources is required.

Compositions of grading are as follows:

Assessment Tools	Maximum Score	% of Grade
Mid-term examination	100	45

<b>Assessment Tools</b>	<b>Maximum Score</b>	<b>% of Grade</b>
Final examination	100	45
One assigned paper	100	10

Final grade classification: A ( $\geq 75$ ); B (60-74); C (50-59); D ( $< 50$ )

**Coverage of DFORCE Core Competence  
in Natural Resources Conservation (KSH 201)**

**Code : KSH 201**

**Course : Natural Resources Conservation**

**Credit : 2(2-0)**

Code	Core Competencies	Course Content Covered	Cognitive Level	Topic
I	Students will be able to understand conservation problems related to human behaviour and threats to biodiversity	Natural resources problems: Human behaviour and tragedy of common	C1	Introduction
		Threats to biodiversity		
		Scope and linkages with other courses		
		Course conduct		
II	Students will be able to define the meaning, general definition, operational definition and objectives of natural resources and their ecosystems conservation	Meaning of conservation	C1	Meaning, definition and objectives of natural resources conservation
		Operational definition		
		Objectives of natural resources conservation		
III	Students will be able to understand conservation motives, economic and social-philosophy foundations for conservation needs and background for conservation movement (Indonesia and world)	Conservation motives	C1, C2	Conservation movement
		Arguments for conservation reasons (economic and social philosophy)		
		History of conservation		
IV	Students will be able to understand natural resources categories, and able to clearly distinguish the meaning of natural resources and biodiversity	Natural resources categories	C1, C2	Natural resources concept
		Biological resources		
		Biodiversity		
V	Students will be able to understand biodiversity and fluctuation	Principles of diversity	C1, C2	Principles of conservation ecology

Code	Core Competencies	Course Content Covered	Cognitive Level	Topic
	principles as the foundations for their management	Principles of population fluctuation		
VI	Students will be able to understand basic conservations at various levels (population, species, community and landscape)	Conservation at population and species levels	C1	Basic concepts of natural resources conservation
		Conservation at community level		
		Conservation at landscape level		
VII	Students will be able to understand basic theories on rarity and extinction, reasons for rarity and extinction, characteristics of vulnerable species, including species rarity categories	Rarity theory	C1	Rarity and extinction
		Extinction theory		
		Reasons for rarity and extinction, and estimated extinction		
		Characteristics of vulnerable species		
		Categories of species rarity		
VIII	Students will be able to understand conservation strategies at principle and operational levels in relation to natural resources and their ecosystem management	Priority for life support system protection	C1, C2	Natural resources conservation strategy
		Priority for genetic diversity preservation		
		Priority for sustainable utilization		

**Assessment Tools to Measure the Achievement of  
Learning Outcomes in Natural Resources Conservation (KSH 201)**

**Code : KSH 201**

**Course : Natural Resources Conservation`**

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<b>Code</b>	<b>Core Competencies</b>	<b>Learning Outcome</b>	<b>Bloom's Taxonomy</b>	<b>Assessment Tool(s)</b>	<b>Learning Activities</b>
I	Students will be able to understand conservation problems related to human behaviour and threats to biodiversity	Students will be able to explain conservation problems related to human behaviour and threats to biodiversity	C1	Written examinations at different cognitive level (Mid-term).	Classroom lecture and discussion
II	Students will be able to define the meaning and general definition, operational definition and objectives of natural resources and their ecosystems conservation	Students will be able to explain the meaning and general definition, operational definition and objectives of natural resources and their ecosystems conservation	C1	Written examinations at different cognitive level (Mid-term).	Classroom lecture and discussion
III	Students will be able to understand conservation motives, economic and social-philosophy foundations for conservation needs and background for conservation movement (Indonesia and world)	Students will be able to explain conservation motives, economic and social-philosophy foundations for the need for conservation and background for conservation movement (Indonesia and world)	C1, C2	Written examinations at different cognitive level (Mid-term).	Classroom lecture and discussion
IV	Students will be able to understand natural resources	Students will be able to explain natural resources	C1, C2	Written examinations at different cognitive level (Mid-term).	Classroom lecture and discussion

Code	Core Competencies	Learning Outcome	Bloom's Taxonomy	Assessment Tool(s)	Learning Activities
	categories, and able to clearly distinguish the meaning of natural resources and biodiversity	categories, and able to clearly differentiate the meaning of natural resources and biodiversity			
V	Students will be able to understand biodiversity and fluctuation principles as the foundations for their management	Students will be able to explain biodiversity and fluctuation principles as the foundations for their management	C1, C2	Written examinations at different cognitive level (Mid-term and final exam).	Classroom lecture and discussion
VI	Students will be able to understand basic conservations at various levels (population, species, community and landscape)	Students will be able to explain basic conservations on various levels (population, species, community and landscape)	C1	Written examinations at different cognitive level (final exam).	Classroom lecture and discussion
VII	Students will be able to understand basic theories on rarity and extinction, reasons for rarity and extinction, characteristics of vulnerable species, including species rarity categories	Students will be able to explain Basic theories on rarity and extinction, reasons for rarity and extinction, characteristics of vulnerable species, including species rarity categories	C1	Written examinations at different cognitive level (final exam).	Classroom lecture and discussion
VIII	Students will be able to understand conservation strategies at principle and operational levels in relation to natural resources and their ecosystem management	Students will be able to explain Conservation strategies at principle and operational levels in relation to natural resources and their ecosystem management	C1, C2	Written examinations at different cognitive level (final exam).	Classroom lecture and discussion