

### Wildlife Ex-Situ Conservation and Wildlife Captivity(KSH1315)

Module designation	<i>Wildlife Ex-Situ Conservation and Wildlife Captivity(KSH1315)</i>
Semester(s) in which the module is taught	6
Person responsible for the module	<i>Dr. Ir. Burhanuddin Masy'ud, M.S.</i>
Language	<i>Bahasa Indonesia</i>
Relation to curriculum	<i>Compulsory course for students of Department of Forest Resources Conservation and Ecotourism IPB University and elective course for other IPB University students</i>
Teaching methods	<i>Lecture session, discussion, and practicum</i>
Teaching media and tools	<i>Powerpoint, textbooks, videos, films, drone, laboratory equipments (example: PPE (Protective Personal Equipment), drone, microscope, etc.)</i>
Workload	<p><u>Total Workload</u></p> <p><i>Contact hour(s) (lecture session): 2 hours per week</i></p> <p><i>Contact hour(s) (practicum session): 3 hours per week</i></p> <p><i>Structured academic activities (doing in-class/take home assignment or homework): 2 hours per week</i></p> <p><i>Private in-depth study (literature reading): 2 hours per week</i></p>
Credit points	<i>3 SCH x 1.44 = 4.32 ECTS</i>
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	<ol style="list-style-type: none"> <li><i>1. Students acquire ability to plan the management of wildlife ex-situ Protected Area.</i></li> <li><i>2. Students acquire ability to manage the utilization of wildlife in ex-situ.</i></li> <li><i>3. Students acquire ability to preserve genetic resources and germplasm of living natural resources.</i></li> <li><i>4. Students acquire ability to breed species of wild animals.</i></li> </ol>
Course description	<p><i>This course describes in full detail the technical aspects of ex-situ conservation and captivity of wild animals, including the procurement of potential broodstock, capture and immobilization of animals, aspects of maintenance (including adaptation and acclimatization, housing and artificial habitat design, nutrition, animal health care), aspects of animals breeding (reproduction) as well as aspects of utilizing the results of ex-situ conservation and captivity of wild animals, both in the form of goods and services including post-harvest technology, and the use of wild animals from ex-situ conservation and captive breeding of wild animals to support population increase and preservation of wild animals in their natural habitat (in-situ), through a release program. The final part of the course will discuss the design of the development of ex-situ conservation and captive wildlife, including master plans, site plans, and management plans, including analysis and formulation of the feasibility of ex-situ conservation and captive wildlife businesses.</i></p>

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Content	<p><b>3. Population status and vulnerability</b>  <i>Students are expected to be able to correctly explain the phenomena that can explain the mechanism of animal population vulnerability, minimum viable population size, and genetic consideration through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 15% of the final score of this course.</i></p> <p><b>4. Species differentiation and population structure in population viability analysis</b>  <i>Students are expected to be able to correctly explain the methods to determine animal population viability, species differentiation, and PVA (Population Viability Analysis) through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 15% of the final score of this course.</i></p> <p><b>5. Molecular genetics of threatened species</b>  <i>Students are expected to be able to correctly explain the definition of species and subspecies, issues on preservation and inter breed in the application of molecular genetic techniques through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 15% of the final score of this course.</i></p> <p><b>6. Reintroduction</b>  <i>Students are expected to be able to correctly explain the definition and mechanism of reintroduction, habitat restoration, and conservation introduction through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 7.5% of the final score of this course.</i></p> <p><b>7. Methods of ex-situ conservation</b>  <i>Students are expected to be able to correctly explain the methods of ex-situ conservation, including cryopreservation and genomic libraries through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 15% of the final score of this course.</i></p> <p><b>8. Measurement and utilization of genetic diversity</b>  <i>Students are expected to be able to explain selection, migration, mutation, and genetic drift correctly through this topic. the Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 15% of the final score of this course.</i>  <i>Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 7.5% of the final score of this course.</i></p>
Examination forms	<i>Written examination</i>
Study and examination requirements	<i>Acquire a final score that qualifies for letter grade D at the minimum; Mid-semester Examination : 30%, Final-semester Examination : 30%, Assessment method : 25%, Online Study : 15%</i>

Module designation	Wildlife Ex-Situ Conservation and Wildlife Captivity(KSH1315)
Content	<p><i>This course is consisted of 8 topics, namely:</i></p> <ol style="list-style-type: none"> <li><b>1. Introduction</b>  <i>Students are expected to be able to correctly explain the definition and scope of ex-situ conservation through this topic. Assessment indicator for this topic is the completeness and correctness of explanation, explain the definition, two main objectives of captive breeding, categories, captive breeding system, utilization development and animal-based entrepreneurship, legal foundation and policy concerning captive breeding, and the position and scope of the field of animal captive breeding within the framework of biodiversity conservation through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 7.5% of the final score of this course, which accounts for for 5% of the final score of this course.</i></li> <li><b>2. Preserving animal genetic diversity and its management</b>  <i>Students are expected to be able to correctly explain the basic theory of animal genetic diversity and its ex-situ management through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 7.5% of the final score of this course.</i></li> </ol>
Reading list	<ol style="list-style-type: none"> <li>1. <i>Auffenberg, W. 1981. The Behavioral Ecology of the Komodo Monitor. Univ. Presses of Florida. Gainesville.</i></li> <li>2. <i>Anonymous. 1993. Managing Global Genetic Resources: Livestock. Committee on Managing Global Resources: Agricultural Imperatives. Board on Agriculture, Nat. Res. Council. Nat. Acad. Press. Washington D.C.</i></li> <li>3. <i>Bailey, J. A. 1984. Principle of Wildlife Management. John Wiley &amp; Sons. New York. Pp. 142-194</i></li> <li>4. <i>Cook, L. M. 1991. Genetic and Ecological Diversity: the sport of nature. Chapman &amp; Hall. London. Pp. 19-20</i></li> <li>5. <i>FAO. 1998. User's Manual for National Coordinators for the Management of Farm Animal Genetic Resources.</i></li> <li>6. <i>KMNLH. 1994. Keanekaragaman Hayati di Indonesia. Jakarta.</i></li> <li>7. <i>Olney, P. J. S., Mace, G. M. and A. T. C. Feistner. 1994. Creative Conservation: Interactive management of wild and captive animals. Chapman &amp; Hall. London. Pp. 144-162; 167-175; 178-198; 243-262; 265-284; 287-300; 304-310; 321-323; 329-335; 338-350; 352-363; 365-381; 420-429; 467-476; 478-484; 486-494; 495-503</i></li> <li>8. <i>Primack, R. B. 1993. Essentials of Conservation Biology. Sinauer Assoc. Inc. Publ. Sunderland, Massachusetts, USA. Pp. 170-174; 175; 201; 203-211; 370-374; 378-390; 405-451; 438-451</i></li> <li>9. <i>Price, M. K. S. 1989. Animal Re-introductions: the Arabian Oryx in Oman. Cambridge Univ. Press. Cambridge.</i></li> </ol>

**Tropical Forest Medicinal Plant and Food (KSH1333)**

Module designation	<i>Tropical Forest Medicinal Plant and Food (KSH1333)</i>
Semester(s) in which the module is taught	6
Person responsible for the module	<i>Prof. Dr. Ir. Ervival A. M. Zuhud, M.S.</i>
Language	<i>Bahasa Indonesia</i>
Relation to curriculum	<i>Compulsory course for students of Department of Forest Resources Conservation and Ecotourism IPB University and elective course for other IPB University students</i>
Teaching methods	<i>Lecture session, discussion and practicum session</i>
Teaching media and tools	<i>Powerpoint, textbooks, videos, films, drone, laboratory equipments (example: PPE (Protective Personal Equipment), drone, microscope, etc.)</i>
Workload	<p><i><u>Total Workload</u></i></p> <p><i>Contact hour(s) (lecture session): 2 hours per week</i></p> <p><i>Contact hour(s) (practicum session): 3 hours per week</i></p> <p><i>Structured academic activities (doing in-class/take home assignment or homework): 2 hours per week</i></p> <p><i>Private in-depth study (literature reading): 2 hours per week</i></p>
Credit points	<i>3 SCH x 1.44 = 4.32 ECTS</i>
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	<ol style="list-style-type: none"> <li><i>1. Students acquire ability to analyze the benefits and measure the potential of tropical medicinal plants and food and food.</i></li> <li><i>2. Students acquire ability to identify traditional and indigenous knowledge in the utilization of tropical medicinal plants and food.</i></li> <li><i>3. Students acquire ability to manage the utilization of tropical medicinal plants and food.</i></li> <li><i>4. Students acquire ability to breed species of tropical medicinal Plants and food.</i></li> </ol>
Content	<p><i>This course is consisted of 13 topics, namely:</i></p> <ol style="list-style-type: none"> <li><b>1. Introduction</b> <i>Students are expected to be able to explain the definition, scope, objectives, and interrelatedness of various knowledge discipline which supports the tropical forest medicinal plant conservation through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 5% of the final score of this course.</i></li> <li><b>2. Forest and public health: Forest pharmacy</b> <i>Students are expected to be able to explain the roles of forest for public health through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 5% of the final score of this course.</i></li> <li><b>3. Rarity and extinction of plant species and food</b> <i>Students are expected to be able to explain proses of rarity and extinction of plant species through this topic. Assessment indicator</i></li> </ol>

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	<p>for this topic is the completeness and correctness of explanation which accounts for for 5% of the final score of this course.</p> <p><b>4. Introduction to species of medicinal plants and food</b> Students are expected to be able to explain several species of superior medicinal plants through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 5% of the final score of this course.</p> <p><b>5. Indonesia medicinal plants conservation strategy with conceptual approach of “Tri-Stimulus AMAR Pro-Konservasi” (Tri-stimulus of AMAR (Natural, Beneficial, Voluntary) for Pro-conservation Behaviors)</b> Students are expected to be able to explain Indonesia medicinal plants conservation strategy with conceptual approach of “Tri-Stimulus AMAR Pro-Konservasi” through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 15% of the final score of this course.</p> <p><b>6. Introduction to dangerous or poisonous plants</b> Students are expected to be able to explain several species of dangerous or poisonous plants through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 10% of the final score of this course.</p> <p><b>7. Techniques of potential estimation and natural collection of medicinal plants and food in tropical natural forests</b> Students are expected to be able to explain sustainable techniques to collect and estimate the potential of medicinal plants and food in tropical natural forests through this topic. Assessment indicator for this topic is the completeness and correctness of explanation as well as skill and correctness of analysis which accounts for for 10% of the final score of this course.</p> <p><b>8. Development of medicinal plants and food conservation based on bioregion in several forest areas</b> Students are expected to be able to explain the concept of medicinal plants and food development through domestication and medicinal plants cultivation based on bioregional resources through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 10% of the final score of this course.</p> <p><b>9. Overview of the main groups of bioactive ingredients in medicinal plants and medicinal plant extraction techniques</b> Students are expected to be able to explain the characteristics of groups of bioactive ingredients in medicinal plants through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 5% of the final score of this course.</p> <p><b>10. Medicinal plants post-harvest technology</b> Students are expected to be able to understand and explain the post-harvest technology (drying and storage) and extraction techniques for medicinal plants through this topic. Assessment indicator for this topic is the completeness and correctness of explanation as well as skill and correctness of analysis which accounts for for 10% of the final score of this course.</p>

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	<p><b>11. Government policy on research of “jamu” (Indonesian herbal medicines)</b>  Students are expected to be able to understand and explain the legislations related to “jamu” and the Regulation of Health Minister of Republic of Indonesia Number 003/MENKES/PER/I/2010 through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 5% of the final score of this course.</p> <p><b>12. The process of testing the benefits or efficacy of medicinal plants into standardized “jamu” and phytopharmaceuticals</b>  Students are expected to be able to explain the procedures to test the benefits or efficacy and stages to make the formula of standardized traditional medicines and phytopharmaceuticals through this topic. Assessment indicator for this topic is the completeness and correctness of explanation as well as skill and correctness of analysis which accounts for for 10% of the final score of this course.</p> <p><b>13. Revitalization of Family Medicinal Plants Conservation Villages (Kampung Konservasi TOGA)</b>  Students are expected to be able to explain the functions, benefits, and strategy of development of Kampung Konservasi TOGA to maintaining the health of Indonesian families as well as families as actors in medicinal plants conservation through this topic. Assessment indicator for this topic is the completeness and correctness of explanation as well as skill and correctness of analysis which accounts for for 5% of the final score of this course.</p>
Examination forms	Written examination and practicum examination
Study and examination requirements	Acquire a final score that qualifies for letter grade D at the minimum; Mid-semester Examination : 30%, Final-semester Examination : 30%, Assessment method : 25%, Online Study : 15%
Reading list	<ol style="list-style-type: none"> <li>1. Akerele, O. 1991. Proposals for International Collaboration, in: O. Akerele, V. Heywood and H. Synge (eds) Conservation of Medicinal Plants. Cambridge University Press. Cambridge. Pp. 359-362</li> <li>2. Cunningham, A.B. 1993. Ethics, Ethnobiological Research and Biodiversity. WWF. Meyrin, Switzerland.</li> <li>3. IUCN, UNEP and WWF. 1991. Caring for the Earth, A Strategy for Sustainable Living. Switzerland.</li> <li>4. Klemm, C. 1990. Wild Plant Conservation and the Law. IUCN.</li> <li>5. Lokubandara, W. J. M. 1991. Policies and Organisation for Medicinal Plant Conservation in Sri Lanka. In: O. Akerele, V. Heywood and H. Synge (eds) Conservation of Medicinal Plants. Cambridge University Press. Cambridge. Pp. 241-248</li> <li>6. Mathe, 1988. An Ecological Approach to Medicinal Plant Introduction. In: Craker, L.E. and Simon, J.E. (eds) Herbs, Spices, and Medicinal Plants: Recent Advances in Botany, Horticulture, and Pharmacology, Volume 3. The Oryx Press. Phoenix. USA. Pp. 176-198</li> <li>7. McNeely, J. A. and Thorsell, J. W. 1991. Enhancing the Role of Protected Areas in Conserving Medicinal Plants. In: O. Akerele, V. Heywood and H. Synge (eds) Conservation of Medicinal Plants. Cambridge University Press. Cambridge. Pp. 213-228</li> <li>8. Nor, S. M., Kadir, A. A., Shaari, K. and Jantan, I. 1995. Medicinal Products from the Tropical Rainforests of the Far East. In: Zakri,</li> </ol>

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	<p>A.H. (ed.) <i>Prospects in Biodiversity Prospecting</i>. Genetics Society of Malaysia. Kuala Lumpur. 5: 95-105.</p> <p>9. Peters, C. M. 1995. <i>Pemungutan Secara Lestari Sumberdaya Tumbuhan Non-Kayudalam Hutan Tropis Basah. (Translated)</i>. Biodiversity Support Program, WWF Consortium, TNC and WRI.</p> <p>10. Plotkin, M. J. 1991. <i>Traditional Knowledge of Medicinal Plants-the Search for New Jungle Medicines</i>. In: O. Akerele, V. Heywood and H. Synge (eds) <i>Conservation of Medicinal Plants</i>. Cambridge University Press. Cambridge. Pp. 55-63</p> <p>11. Principe, P. P. 1989. <i>The Economics significance of plants and their constituents as drugs</i>, in: H. Wegner, H. Hikino and N.R. Farnsworth (eds.) <i>Economic and Medicinal Plant Research, Volume 3</i>. Academic Press, London, UK. Pp. 1-17</p> <p>12. Synge, H. dan V. Heywood. 1991. <i>Information Systems and Databases for the Conservation of Medicinal Plants</i>. In: O. Akerele, V. Heywood and H. Synge (Eds) <i>Conservation of Medicinal Plants</i>. Cambridge University Press. Cambridge. Pp. 148-164</p> <p>13. WHO, IUCN, and WWF. 1993. <i>Guidelines on the Conservation of Medicinal Plants</i>. IUCN. Gland, Switzerland.</p> <p>14. Muhtaman, D. R., and E. A. M. Zuhud. 1997. <i>Akses Pemanfaatan Sumberdaya Keanekaragaman Hayati Indonesia</i>. FAHUTAN IPB – LATIN. Bogor.</p> <p>15. Zuhud, E. A. M. and Haryanto (Ed). 1994. <i>Pelestarian Pemanfaatan Keanekaragaman Tumbuhan Obat Hutan Tropika Indonesia</i>. FAHUTAN IPB – LATIN. Bogor</p>

### Environmental Management Instruments (KSH1303)

Module designation	<i>Environmental Management Instruments (KSH1303)</i>
Semester(s) in which the module is taught	6
Person responsible for the module	<i>Dr. Ir. Nyoto Santoso, MS</i>
Language	<i>Bahasa Indonesia</i>
Relation to curriculum	<i>Compulsory course</i>
Teaching methods	<i>Lecturer session</i>
Teaching media and tools	<i>Powerpoint, textbooks, videos, films, drone, laboratory equipments (example: PPE (Protective Personal Equipment), drone, microscope, etc.)</i>
Workload	<p><u>Total Workload</u></p> <p>Contact hour(s) (lecture session): 1 hour per week</p> <p>Structured academic activities (doing in-class/take home assignment or homework): 1 hour per week</p> <p>Private in-depth study (literature reading): 1 hour per week</p>
Credit points	<i>2 SCH x 1.44 = 2.88 ECTS</i>
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	<i>Students know, understand and can plan/implement Certification and Assessment Techniques, as well as Sustainable Environmental Management Implementation Strategies.</i>
Course description	<i>This course explains the scope of "Environmental Management Instruments", Background and History of Sustainable Environmental Management, Definition and Scope of 12 Environmental Management Instruments (Indonesia Law No.32 of 2009), Environmental Damage and Environmental Recovery, Principles of Sustainability of Environmental Management, Criteria and Indicators of Sustainable Resource Management, Certification and Environmental Management Sustainability Assessment Techniques (ISO, PHPL, FSC, ISPO, RSPO, ICMM, IFC, Bonsucro, SAI, ISCC), and Implementation Strategies for Sustainable Environmental Management.</i>



Module designation	<i>Environmental Management Instruments (KSH1303)</i>
Content	<ol style="list-style-type: none"> <li>1. <i>Introduction</i> <i>Introduction to the lecture, Lecture contract, Outline of the lecture, Background, Definition, Purpose, Object of Study, Component or Scope, Relation with Other Sciences, Importance in Sustainable Resource/Environment Management</i></li> <li>2. <i>Environmental Management Instruments as Policy</i> <i>Explanation 12 Environmental Management Instruments which include: Strategic Environmental Assessment, Spatial Planning, Environmental Quality Standard, Environmental Damage Standard Criteria, Environmental Impact Analysis, Environmental Management Efforts (UKL) and Environmental Monitoring Efforts (UPL), Environmental Licensing, Environmental Economic Instruments, Environment-Based Legislation, Environment-Based Budget, Environmental Risk Analysis, and Environmental Audit</i></li> <li>3. <i>Project Stages and Environmental Permitting Mechanism</i> <i>Baseline Survey, Project Feasibility Study, Activity Stages and Activity Plan, Amdal &amp; RKL/RPL, UKL-UPL, Environmental Permit</i></li> <li>4. <i>Environmental damage and loss value analysis</i> <i>Definition of Environmental Damage, environmental damage assessment and Environmental Loss Value, Environmental Recovery Analysis</i></li> <li>5. <i>Principles and Criteria for Sustainable Environmental Management Indicators in Forestry and Plantation Sector</i> <i>Principles, Criteria and indicators of Sustainable Environmental Management in Forest Management (PHPL, SVLK, FSC). Principles, Criteria and indicators of Sustainable Environmental Management in Oil Palm Plantation (ISPO, RSPO)</i></li> <li>6. <i>Principles and Criteria for Indicators of Sustainable Environmental Management in the Mining Sector</i> <i>Principles, Criteria and indicators of Sustainable Environmental Management in Mineral and Coal Mining. Principles, Criteria and indicators of Sustainable Environmental Management in Oil and Gas Mining</i></li> <li>7. <i>Environmental Management Sustainability Certification and Assessment Techniques (PHPL, FSC, ISPO, RSPO, ICMM, IFC, Bonsucro, SAI, ISCC)</i> <i>Purpose, Benefits of Certification, Certification Mechanism and Implementation (Mandatory, Voluntary), Environmental Management Certification (Assessor, Certification Body, Complain and Settlement Mechanism), Environmental Management Sustainability Assessment Techniques (case example: ISPO and RSPO; PHPL and Ecolabeling)</i></li> <li>8. <i>Sustainable Environmental Management Implementation Strategy</i> <i>Understand prerequisites (vision, mission, goals, programs, activities), Equalize perception and internal commitment, Preparation of Information, Human Resources and Organizational Data, Carrying out management and monitoring activities in the field, Internal Audit (1,2,3 depending on readiness), Certification (invite Certification Body, Pre-assessment-final assessment-certificate)</i></li> </ol>
Examination forms	Written examination

Module designation	<i>Environmental Management Instruments (KSH1303)</i>
Study and examination requirements	<i>Acquire a final score that qualifies for letter grade D at the minimum; Mid-semester Examination : 30%, Final-semester Examination : 30%, Assessment method : 25%, Online Study : 15%</i>
Reading list	<ol style="list-style-type: none"> <li>1. <i>Undang-Undang Nomor 32 tahun 2009 ttg Perlindungan dan Pengelolaan Lingkungan Hidup</i></li> <li>2. <i>Undang-Undang Nomor 41 tahun 1999 tentang Kehutanan</i></li> <li>3. <i>Undang-Undang Nomor 5 tahun 1990 ttg Konservasi kehati dan Ekosistemnya</i></li> <li>4. <i>Undang Undang Nomor 26 tahun 2007 tentang Rencana Tataruang</i></li> <li>5. <i>Perdirjen KSDAE No. P.5/KSDAE/SET/KUM.1/9/2017 tentang Petunjuk Teknis Penentuan ABKT</i></li> <li>6. <i>HCVRN, 2013. Common Guidance for the Identification of HCV</i></li> <li>7. <i>HCVRN. 2018. Guidance for using the HCV-HCSA assessment report template.</i></li> <li>8. <i>RSPO. 2013. Principe and Criteria for the Production of Sustainable Palm Oi</i></li> <li>9. <i>Peraturan Presiden Nomor 44 tahun 2020. Sistem Sertifikasi Perkebunan Kelapa Sawit Berkelanjutan Indonesia.</i></li> <li>10. <i>Permen LHK.Nomor 21 tahun 2020. Penilaian Kinerja Pengelolaan Hutan Produksi Lestari dan Verifikasi Legalitas Kayu pada Pemegang Izin, Hak Pengelolaan, Hutan Hak, atau Pemegang Legalitas Pemanfaatan Hasil Hutan Kayu</i></li> <li>11. <i>FSC. 2022. Pedoman FSC Forest Management</i></li> <li>12. <i>FSC-STD-RAP-IDN-01-2022 Hutan Tanaman_Standar Pengelolaan Hutan FSC Bagi Petani-Hutan Di Indonesia</i></li> <li>13. <i>FSC. 2022. Digital Guidebook Pengenalan Kebijakan FSC dan Sertifikasi FSC Forest Management</i></li> <li>14. <i>FSC. 2022. Standar Pengelolaan Hutan Nasional FSC untuk Indonesia (Terjemahan dari FSC National Forest Stewardship Standard of Indonesia, FSC-STD-IDN-02.1-2020 EN)</i></li> <li>15. <i>ICMM. 2005. Good Practice Guidance for Mining and Biodiversity.</i></li> <li>16. <i>ICMM. 2015. Sustainable Development Framework: ICMM Principles</i></li> <li>17. <i>Redi, A.A.N.P &amp; Putra., I Nyoman Mardika (2021). ISO 9001:2015 Pengantar Standar Manajemen Mutu. Website Magister Teknik Industri Bina Nusantara.</i></li> <li>18. <a href="https://www.iso.org/iso-9001-quality-management.html">https://www.iso.org/iso-9001-quality-management.html</a></li> <li>19. <a href="https://asq.org/quality-resources/iso-9001">https://asq.org/quality-resources/iso-9001</a></li> <li>20. <i>Hinsch, Martin. ISO 9001: 2015 for Everyday Operations: All Facts–Short, Concise and Understandable. Springer, 2019.</i></li> <li>21. <i>Phillips, Ann W. ISO 9001: 2015 internal audits made easy: tools, techniques, and step-by-step guidelines for successful internal audits. Quality Press, 2015.</i></li> <li>22. <i>Gaspersz, Vincent. "All-in-one Bundle of ISO 9001, ISO 14001, OHSAS 18001, ISO 22000, ISO 26000, ISO 28000, ISO 31000, ISO 13053-1, ISO 19011." Bogor: Tri-Al-Bros Publishing (2013).</i></li> <li>23. <a href="https://www.qualitygurus.com/seven-quality-management-principles/">https://www.qualitygurus.com/seven-quality-management-principles/</a></li> </ol>

**Protected Areas Planning (KSH1324)**

Module designation	<i>Protected Areas Planning (KSH1324)</i>
Semester(s) in which the module is taught	6
Person responsible for the module	<i>Prof. Dr. Ir. Sambas Basuni, M.S.</i>
Language	<i>Bahasa Indonesia</i>
Relation to curriculum	<i>Compulsory course for students of Department of Forest Resources Conservation and Ecotourism IPB University</i>
Teaching methods	<i>Lecture session, discussion and Project-Based Learning (PBL)</i>
Teaching media and tools	<i>Powerpoint, textbooks, videos, films, drone, laboratory equipments (example: PPE (Protective Personal Equipment), drone, microscope, etc.)</i>
Workload	<p><u>Total Workload</u></p> <p>Contact hour(s) (lecture session): 1 hour per week</p> <p>Structured academic activities (doing in-class/take home assignment or homework): 1 hour per week</p> <p>Private in-depth study (literature reading): 1 hour per week</p>
Credit points	<i>2 SCH x 1.44 = 2.88 ECTS</i>
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	<ol style="list-style-type: none"> <li>1. <i>Students acquire ability to plan and design the management of protected area within the context of landscape, wild animal, plant diversity, ecosystem services, nature recreation, and ecotourism.</i></li> <li>2. <i>Students acquire ability to implement interdisciplinary approach in the management of protected area, wild animal, plant diversity, ecosystem services, nature recreation, and ecotourism.</i></li> </ol>
Content	<p><i>This course is consisted of 8 topics, namely:</i></p> <ol style="list-style-type: none"> <li>1. <b>Introduction</b> <i>Students are expected to be able to correctly explain the definition and scope of conservation planning in the context of regional management and development through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 5% of the final score of this course.</i></li> <li>2. <b>Review on Protected Area planning policy</b> <i>Students are expected to be able to correctly explain the definition and scope of Protected Area planning in the context of regional management and development through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 15% of the final score of this course.</i></li> <li>3. <b>Theoretical basis and conceptual framework of Protected Area planning</b> <i>Students are expected to be able to explain the theoretical basis of Protected Area planning holistically, from the perspective of either ecological, social, cultural, and economic aspect which is important for Protected Area planning through this topic.</i></li> </ol>

Module designation	Protected Areas Planning (KSH1324)
	<p>Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 15% of the final score of this course.</p> <p><b>3. Benefits of Protected Area for regional development</b> Students are expected to be able to explain the ecological, social, cultural, and economic benefits of Protected Area and its biodiversity and ecosystem in the context of regional development through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 15% of the final score of this course.</p> <p><b>4. Instruments of Protected Area planning</b> Students are expected to be able to explain and implement the use of variety of instruments in Protected Area planning through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 7.5% of the final score of this course.</p> <p><b>5. Allocation and establishment of Protected Area</b> Students are expected to be able to explain the definition of criteria and indicators to establish a Protected Area, and their implementation through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 20% of the final score of this course.</p> <p><b>6. Performance criteria and indicators of Protected Area management</b> Students are expected to be able to explain the definition of performance criteria and indicators of Protected Area management, and methods of their formulation through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 7.5% of the final score of this course.</p> <p><b>7. Case study and capita selecta</b> Students are expected to be able to explain the definition of performance criteria and indicators of Protected Area management, and methods of their formulation through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 15% of the final score of this course.</p>
Examination forms	Written examination
Study and examination requirements	Acquire a final score that qualifies for letter grade D at the minimum; Mid-semester Examination : 30%, Final-semester Examination : 30%, Assessment method : 25%, Online Study : 15%
Reading list	<ol style="list-style-type: none"> <li>1. Ayala, F. J and J. W. Valentine. 1979. <i>Evolving: the theory and processes of organic evolution</i>. The Benyamin/Cummings Publ. Co., Inc. London.</li> <li>2. Avers, C. J. 1974. <i>Evolution</i>. Harper &amp; Row Publ. London.</li> <li>3. Borrini-Feyerabend, M. G., Farvar, T., Nguingiri, J. C and Ndangang, V. A. 2000. <i>Co-management of Natural Resources: Organising, Negotiating and Learning-by-Doing</i>. IUCN-GTZ.</li> <li>4. Brown, L. R. 2000. <i>Eco-Economy: Building an Economy for the Earth</i>. W. W. Norton &amp; Co., New York.</li> <li>5. Eghenter, C., Sellato, B. and G. S. Devung. 2003. <i>Social Science Research and Conservation Management in the Interior of Borneo: Unravelling past and present interactions of people and forests</i>.</li> </ol>

Module designation	Protected Areas Planning (KSH1324)
	<p><i>CIFOR, WWF Indonesia, UNESCO and Ford Foundation.</i></p> <ol style="list-style-type: none"> <li>6. <i>Groenendijk, L. 2003. Planning and Management Tools. ITC, Enschede. Netherland.</i></li> <li>7. <i>Hengeveld, R. 1990. Dynamic Biogeography. Cambridge Univ. Press.</i></li> <li>8. <i>Kartawinata, K. and A. J. Whitten. 1991. Krisis Biologi: hilangnya keanekaragaman hayati. Yayasan Obor Indonesia. Jakarta.</i></li> <li>9. <i>Magurran, A. E. 1983. Ecological Diversity and Its Measurement. Croom Helm. London. Sydney.</i></li> <li>10. <i>McNeely, J. A. 1988. Economics and Biological Diversity: Developing and Using Economic Incentives to Conserve Biological Resource. IUCN. Gland, Switzerland.</i></li> <li>11. <i>McNeely, J. A., Miller, K. R., Reid, W. V., Mittermeier, R. A and T. B. Werner. 1990. Conserving the World's Biological Diversity. World Bank, WRI, IUCN, Conservation International, WWF.</i></li> <li>12. <i>Mackinnon, J., Mackinnon, K., Child, Gand Thorsell, J. 1990. Pengelolaan Kawasan Dilindungi di Daerah Tropik (Translated). Gajah Mada University Press.</i></li> <li>13. <i>Meffe, G. K. and C. R. Carroll. 1994. Principles of Conservation Biology. Sinauer Associates, Inc. Sunderland, Massachusetts.</i></li> <li>14. <i>Shafer, C. L. 1990. Island Theory and Conservation Practice. Smithsonian Institution Press. Washington and London.</i></li> <li>15. <i>Soule, M. E. (Ed.), 1987. Viable Population for Conservation. Cambridge University Press. Cambridge.</i></li> <li>16. <i>Wollenberg, E., Edmunds, D. and L. Buck. 2001. Mengantisipasi Perubahan Skenario: Sebagai Sarana Pengelolaan Hutan Secara Adaptif. CIFOR.</i></li> </ol>

### Wildlife Management (KSH1316)

Module designation	<i>Wildlife Management (KSH1316)</i>
Semester(s) in which the module is taught	6
Person responsible for the module	<i>Dr. Ir. Jarwadi Budi Hernowo, M.Sc.F.</i>
Language	<i>Bahasa Indonesia</i>
Relation to curriculum	<i>Compulsory course for students of Department of Forest Resources Conservation and Ecotourism IPB University</i>
Teaching methods	<i>Lecture session and discussion</i>
Teaching media and tools	<i>Powerpoint, textbooks, videos, films, drone, laboratory equipments (example: PPE (Protective Personal Equipment), drone, microscope, etc.)</i>
Workload	<p><i><u>Total Workload</u></i></p> <p><i>Contact hour(s) (lecture session): 1 hour per week</i></p> <p><i>Structured academic activities (doing in-class/take home assignment or homework): 1 hourperweek</i></p> <p><i>Private in-depth study (literature reading): 1 hour per week</i></p>
Credit points	<i>2 SCH x 1.44 = 2.88 ECTS</i>
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	<ol style="list-style-type: none"> <li><i>1. Students acquire ability to analyze the benefits and measure the potential of wildlife.</i></li> <li><i>2. Students acquire ability to plan wildlife management.</i></li> <li><i>3. Students acquire ability to manage the utilization of wildlife.</i></li> <li><i>4. Students acquire ability to mobilize resources in the management of wildlife.</i></li> <li><i>5. Students acquire ability to manage human-wildlife conflicts.</i></li> <li><i>6. Students acquire ability to implement interdisciplinary approach in the management of wildlife.</i></li> </ol>
Content	<p><i>This course is consisted of 6 topics, namely:</i></p> <ol style="list-style-type: none"> <li><b>1. Wildlife management</b> <i>Students are expected to be able to explain the scope and importance of wildlife management through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 10% of the final score of this course.</i></li> <li><b>2. Management principles</b> <i>Students are expected to be able to explain and implement the wildlife management principles through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 10% of the final score of this course.</i></li> <li><b>3. Population management</b> <i>Students are expected to be able to explain and implement the wildlife population management through this topic. Assessment</i></li> </ol>

Module designation	<i>Wildlife Management (KSH1316)</i>
	<p>indicator for this topic is the completeness and correctness of explanation as well as skill and correctness of population management which accounts for for 25% of the final score of this course.</p> <p><b>4. Habitat management</b> Students are expected to be able to explain and implement the wildlife habitat management through this topic. Assessment indicator for this topic is the completeness and correctness of explanation as well as skill and correctness of habitat management which accounts for for 25% of the final score of this course.</p> <p><b>5. Forms of wildlife management</b> Students are expected to be able to explain and implement some examples of wildlife management through this topic. Assessment indicator for this topic is the completeness and correctness of explanation as well as skill and correctness of in implementing some examples of wildlife management which accounts for for 20% of the final score of this course.</p> <p><b>6. Dealing with wildlife disturbance</b> Students are expected to be able to explain wildlife disturbances. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 10% of the final score of this course.</p>
Examination forms	Written examination
Study and examination requirements	Acquire a final score that qualifies for letter grade D at the minimum; Mid-semester Examination : 30%, Final-semester Examination : 30%, Assessment method : 25%, Online Study : 15%
Reading list	<ol style="list-style-type: none"> <li>1. Alikodra, H. S. 1990. <i>Pengelolaan Satwaliar Jilid I</i>. Departemen Pendidikandan Kebudayaan Direktorat Jenderal Pendidikan Tinggi. Pusat Antar Universitas Ilmu Hayati. Institut Pertanian Bogor. Bogor.</li> <li>2. Brower, J. E. and J. H. Zar. 1977. <i>Field and Laboratory Methods for General Ecology</i>. Wm. C. Dubuque, Brown Company Publishers. Iowa.</li> <li>3. Dunn, E. H., Bart, J., Collins, B. T., Craig, B., Dale, B., Downes, C. M., Francis, S. M., Woodley, S. and P. Zorn. 2006. <i>Monitoring bird population in small geographic areas</i>. Canadian Wildlife Service. Ottawa.</li> <li>4. Heyer, W. R., Donnelly, M. A., McDiarmid, R. W., Lee-Ann, C. H. and M. S. Foster. 1994. <i>Measuringand Monitoring Biological Diversity: Standard Methods for Amphibians</i>. Smithsonian.</li> <li>5. Krebs, C. J. 1978. <i>Ecology: The Experimental Analysis of Distribution and Abundance</i>. The University of British Columbia.</li> <li>6. Kusmana, C. 1997. <i>Metode Survey Vegetasi</i>. IPB Press. Bogor.</li> <li>7. Kusrini, M. D. 2008. <i>Pedoman Penelitian dan Survey Amfibi d Alam</i>. Fakultas Kehutanan IPB. Bogor.</li> <li>8. Mustari, A. H. 2011. <i>Metode Survey dan Inventarisasi Mamalia</i>. Institut Pertanian Bogor. Bogor.</li> <li>9. Ripley, T. H. 1980. <i>Planning Wildlife Management Investigations and Projects</i>. US Departement of Agriculture, Forest Service. West Virginia.</li> <li>10. Rosenzweig, M. L. 1995. <i>Species Diversity in Space and Time</i>. Cambridge University Press. Cambridge.</li> <li>11. Tarumingkeng, R. C. 1994. <i>Dinamika Populasi: Kajian Ekologi Kuantitatif</i>. Pustaka Sinar Harapan. Jakarta.</li> </ol>

### Urban Forest Conservation (KSH1345)

Module designation	<i>Urban Forest Conservation (KSH1345)</i>
Semester(s) in which the module is taught	6
Person responsible for the module	<i>Dr. Ir. Rachmad Hermawan, M.Sc.F</i>
Language	<i>Bahasa Indonesia</i>
Relation to curriculum	<i>Compulsory course for students of Department of Forest Resources Conservation and Ecotourism IPB University</i>
Teaching methods	<i>Lecture session and discussion</i>
Teaching media and tools	<i>Powerpoint, textbooks, videos, films, drone, laboratory equipments (example: PPE (Protective Personal Equipment), drone, microscope, etc.)</i>
Workload	<p><i><u>Total Workload</u></i></p> <p><i>Contact hour(s) (lecture session): 2 hours per week</i></p> <p><i>Structured academic activities (doing in-class/take home assignment or homework): 2 hours per week</i></p> <p><i>Private in-depth study (literature reading): 2 hours per week</i></p>
Credit points	<i>3 SCH x 1.44 = 4.32 ECTS</i>
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	<ol style="list-style-type: none"> <li><i>1. Students acquire ability to analyze the benefits and measure the potential of urban forests.</i></li> <li><i>2. Students acquire ability to plant urban forest within landscape context.</i></li> <li><i>3. Students acquire ability to manage urban forests.</i></li> </ol>
Content	<p><i>This course is consisted of 10 topics, namely:</i></p> <ol style="list-style-type: none"> <li><b><i>1. Urban environmental pollution</i></b> <i>Students are expected to be able to elaborate the urban environment quality condition through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 7.5% of the final score of this course.</i></li> <li><b><i>2. Life Quality Index and human activities</i></b> <i>Students are expected to be able to explain the human behaviors which can cause the decrease of Life Quality Index in urban areas through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 7.5% of the final score of this course.</i></li> <li><b><i>3. Life Quality Index and human behaviors in rural and urban areas</i></b> <i>Students are expected to be able to explain Life Quality Index in urban areas through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which counts for 7.5% of the final score of this course.</i></li> <li><b><i>4. Development design and activities</i></b> <i>Students are expected to be able to elaborate the efforts to</i></li> </ol>



Module designation	Urban Forest Conservation (KSH1345)
	<p><i>develop environmentally friendly cities through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 7.5% of the final score of this course.</i></p> <p><b>5. Strengths and weaknesses of open green space and urban forest</b>  <i>Students are expected to be able to analyze the strengths and weaknesses of open green spaces, city parks, and urban forest through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 7.5% of the final score of this course.</i></p> <p><b>6. Definition of urban forest according to experts</b>  <i>Students are expected to be able to identify several definitions of urban forest and to explain the strengths and weaknesses of each definition through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 7.5% of the final score of this course.</i></p> <p><b>7. Functions of urban forest</b>  <i>Students are expected to be able to elaborate several functions of urban forest through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 7.5% of the final score of this course.</i></p> <p><b>8. Determination of urban forest area</b>  <i>Students are expected to be able to measure and determine the minimum area required for urban forest through this topic. Assessment indicator for this topic is the completeness and correctness of explanation as well as skill and correctness of measurement which accounts for for 15% of the final score of this course.</i></p> <p><b>9. Types and forms of urban forest</b>  <i>Students are expected to be able to explain the types and forms of urban forest through this topic. Assessment indicator for this topic is the completeness and correctness of explanation which accounts for for 7.5% of the final score of this course.</i></p> <p><b>10. Designing urban forest</b>  <i>Students are expected to be able to design an example of urban forest according to site characteristics through this topic. Assessment indicator for this topic is the completeness and correctness of explanation as well as skill and correctness of design which accounts for for 25% of the final score of this course.</i></p>
Examination forms	Written examination
Study and examination requirements	Acquire a final score that qualifies for letter grade D at the minimum; Mid-semester Examination : 30%, Final-semester Examination : 30%, Assessment method : 25%, Online Study : 15%
Reading list	<ol style="list-style-type: none"> <li>1. Adam G, Hermawan R, Prasetyo LB. 2017. <i>Use of Geographical Information System (GIS) and remote sensing in development of urban forest types and shapes in Tangerang Selatan City. IOP Conference Series: Earth and Environmental Science. 54 (012051).</i></li> <li>2. Al-Reza DD, Hermawan R, Prasetyo LB. 2017. <i>Potensi cadangan karbon di atas permukaan tanah di Taman Hutan Raya Pancoran Mas, Depok. Media Konserv. 22 (1): 71-78.</i></li> <li>3. Arlita T, Yanti LA, Farida A, Umam AH, Anhar A, Maimunah S, Samek JH, Muslih AM. 2022. <i>Total carbon stock in Langsa Urban</i></li> </ol>

Module designation	Urban Forest Conservation (KSH1345)
	<p>Forest, Langsa City, Aceh Province. <i>IOP Conf. Series: Earth and Environmental Science</i>. 951(2022) 012092. doi:10.1088/1755-1315/951/1/012092.</p> <ol style="list-style-type: none"> <li>4. Badrulhisham N, Othman N. 2016. Knowledge in tree pruning for sustainable practices in urban setting: improving our quality of life. <i>Procedia - Social and Behavioral Sciences</i> 234 ( 2016 ) 210 – 217.</li> <li>5. Badrulhisham N, Othman N. 2020. Assessing pruning knowledge towards effective tree maintenance: A case study of four Local Authorities in Malaysia. <i>Environment-Behaviour Proceedings Journal</i>. 5(13): 223–229. <a href="https://doi.org/10.21834/e-bpj.v5i13.2054">https://doi.org/10.21834/e-bpj.v5i13.2054</a></li> <li>6. Baeumler A, Vasquez EI, Mehndiratta S. 2012. Sustainable low-carbon cities in China: why it matters and what can be done. Di dalam: Baeumler A, Vasquez EI, Mehndiratta S, editor. <i>Sustainable Low-Carbon City Development in China</i>. Washington: The World Bank</li> <li>7. Dahlan, E. N. 1992. <i>Hutan Kota Untuk Pengelolaan Lingkungan Hidup di Perkotaan</i>. APHI. Jakarta.</li> <li>8. Dahlan, A. 1992. <i>Hutan Kota untuk Pengelolaan dan Peningkatan Kualitas Lingkungan Hidup</i>. IPB-APHL. Jakarta.</li> <li>9. Dahlan, E. N. 2007. <i>Kota Hijau Hutan Kota</i>. IPB Press. Bogor.</li> <li>10. Danner, M., Locherer, M., Hank, T. and K. Richter. 2015. <i>Measuring Leaf Area Index (LAI) with the LI-Cor LAI 2200C or LAI-2200 (+2200Clear Kit)</i>. Enmap Consortium. Postdam.</li> <li>11. Fahrudin. 2010. <i>Bioteknologi Lingkungan</i>. Alfabeta. Bandung.</li> <li>12. Fandeli, C. M. 2009. <i>Prinsip-prinsip Dasar Mengkonservasi Lanskap</i>. Gadjah Mada University Press. Yogyakarta.</li> <li>13. Grey, G. W. and F.I. Deneke, 1978. <i>Urban Forestry</i>. John Willey and Sons.</li> <li>14. Handoko, Hidayati, R., June, T. and A. N. Nasir. 1994. <i>Klimatologi Dasar</i>. Pustaka Jaya. Bogor</li> <li>15. Miller, R. W. 1998. <i>Urban Forestry: Planning and Managing Urban Greenspaces</i>. Prentice Hall. Englewood.</li> <li>16. Nazaruddin. 1996. <i>Penghijauan Kota</i>. Penebar Swadaya. Jakarta.</li> <li>17. Noer, I. S. 2004. <i>Bioindikator Sebagai Alat Untuk Menengarai Adanya Pencemaran Udara</i>. Forum Komunikasi Lingkungan III. Bandung.</li> <li>18. Yusniawati. 2003. <i>Polusi Udara di Kota-kota Besar Dunia</i>. Universitas Sumatera Utara. Medan.</li> </ol>

### Conservation Bussiness (KSH1325)

Module designation	<i>Conservation Business (KSH1325)</i>
Semester(s) in which the module is taught	6
Person responsible for the module	<i>Dr. Ir. Tutut Sunarminto, MS</i>
Language	<i>Bahasa Indonesia</i>
Relation to curriculum	<i>Compulsory course for students of Department of Forest Resources Conservation and Ecotourism IPB University</i>
Teaching methods	<i>Lecture session and discussion</i>
Workload	<p><i>Total Workload</i></p> <p><i>Contact hour(s) (lecture session): 2 hours per week</i></p> <p><i>Structured academic activities (doing in-class/take home assignments or homework): 2 hours per week</i></p> <p><i>Private in-depth study (literature reading): 2 hours per week</i></p>
Credit points	<i>2 SCH x 1.44 = 2.88 ECTS</i>
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	<p><i>Students gain knowledge and understanding of conservation business in the context of business development in the form of goods products, namely non-timber forest products as well as those in the form of ecotourism and other ecosystem/environmental services.</i></p> <p><i>Students gain knowledge and understanding in building a conservation business and its various challenges by considering all existing factors, including the availability of forest resources, laws and regulations, stakeholders in the conservation sector, and community readiness.</i></p>
Course description	<i>This course will provide mastery of business theory and practice in the field of biological resource conservation and ecotourism which includes: business concepts and business ecosystems; entrepreneurial spirit; forms of business entities and business scale; conservation business conditions; conservation business opportunities and risks; strategies and techniques for building conservation businesses; conservation business planning; conservation business management; best experience of conservation business practices; and evaluation of conservation business success.</i>
Content	<p><b>1. Introduction to Conservation Business</b></p> <p><i>Students are expected to be able to explain correctly the meaning and scope of conservation business as part of efforts to solve forest resource conservation problems by studying various opportunities and challenges of business development in producing to marketing products in the form of non-timber forest products and ecotourism and other ecosystem / environmental services. The assessment indicator of this course is the completeness and correctness of the explanation which is worth 5% of the final grade of this course.</i></p> <p><b>2. Building a Business</b></p> <p><i>Students are expected to be able to understand and explain correctly the business context, manage and organize business enterprises. The</i></p>

Module designation	Conservation Business (KSH1325)
	<p><i>assessment indicator for this topic is the completeness and correctness of the explanation which accounts for 7.5% of the final grade for this course.</i></p> <p><b>3. Flora business potential, opportunities and challenges</b>  <i>Students are expected to be able to understand and explain correctly the abundance of flora in Indonesia, utilization of flora as input and output, development and challenges of flora business. The assessment indicator for this topic is the completeness and correctness of the explanation which accounts for 7.5% of the final grade for this course.</i></p> <p><b>4. Fauna business potential, opportunities and challenges</b>  <i>Students are expected to be able to understand and explain correctly the abundance of fauna in Indonesia, utilization of fauna as input and output, development and challenges of fauna business. The assessment indicator for this topic is the completeness and correctness of the explanation which accounts for 7.5% of the final grade for this course.</i></p> <p><b>5. Environmental services business potential, opportunities and challenges</b>  <i>Students are expected to be able to understand and explain correctly environmental services as a product of conservation, utilization of environmental services with economic value along with opportunities and challenges of environmental services business. The assessment indicator for this topic is the completeness and correctness of the explanation which accounts for 7.5% of the final grade for this course.</i></p> <p><b>6. Ecotourism business potential, opportunities and challenges</b>  <i>Students are expected to be able to understand and explain correctly ecotourism in Protected Areas, ecotourism business development, the economic value of ecotourism along with ecotourism business opportunities and challenges. The assessment indicator for this topic is the completeness and correctness of the explanation which accounts for 7.5% of the final grade for this course.</i></p> <p><b>7. Business ethics</b>  <i>Students are expected to be able to understand and explain correctly ethical issues in business, the application of ethics in organizing business companies, social responsibility, and the application of ethics in building business products. The assessment indicator for this topic is the completeness and correctness of the explanation which accounts for 5% of the final grade for this course.</i></p> <p><b>8. Preparation of forest resources for conservation business development</b>  <i>Students are expected to be able to understand and explain correctly the condition of forest resources in Protected Areas, forest resource management in Protected Areas, problems and achievements of forest resource management in Protected Areas, and build forest resource management as the core of conservation business development.</i>  <i>The assessment indicator for this topic is the completeness and correctness of the explanation which accounts for 7.5% of the final grade for this course.</i></p> <p><b>9. Protected Area management in conservation business development</b>  <i>Students are expected to be able to understand and explain correctly the current management of Protected Areas, the objectives of Protected Area management, the problems and achievements of Protected Area management, and building Protected Area management for conservation business development.</i>  <i>The assessment indicator for this topic is the completeness and correctness of the explanation which accounts for 5% of the final grade for this course.</i></p> <p><b>10. The role of stakeholders in conservation business</b>  <i>Students are expected to be able to understand and correctly explain stakeholders in Protected Area management, the role of stakeholders in conservation business, and strategies for optimizing the role of stakeholders in conservation business. The assessment indicator for this topic is the</i></p>

Module designation	Conservation Business (KSH1325)
	<p>completeness and correctness of the explanation which accounts for 7.5% of the final grade for this course.</p> <p><b>11. Institutional readiness in conservation business development</b> Students are expected to be able to understand and explain correctly the conservation business development laws and regulations, identify the problems of laws and regulations and institutions in conservation business development, and institutional strategies in conservation business development. The assessment indicator for this topic is the completeness and correctness of the explanation which accounts for 7.5% of the final grade for this course.</p> <p><b>12. Community readiness in conservation business</b> Students are expected to be able to understand and explain correctly the community's knowledge of conservation, the community's knowledge and skills of business, conservation business by the community, and problems and solutions for conservation business development in the community. The assessment indicator for this topic is the completeness and correctness of the explanation which accounts for 7.5% of the final grade for this course.</p> <p><b>13. Marketing in the conservation business</b> Students are expected to be able to understand and explain correctly the role of marketing in conservation business, concepts, strategies and marketing costs. The assessment indicator for this topic is the completeness and correctness of the explanation which accounts for 7.5% of the final grade for this course.</p> <p><b>14. Conservation Business Planning and Implementation</b> Students are expected to be able to understand and explain correctly how to develop a conservation business plan, assess the feasibility of a conservation business, run a conservation business, and assess the profit and loss of a conservation business. The assessment indicator for this topic is the completeness and correctness of the explanation which accounts for 10% of the final grade for this course.</p>
Examination forms	Written examination
Study and examination requirements	Acquire a final score that qualifies for letter grade D at the minimum; Mid-semester Examination : 30%, Final-semester Examination : 30%, Assessment method : 25%, Online Study : 15%
Reading list	<ol style="list-style-type: none"> <li>1. Goeldner, C. R., and J. R. B. Ritchie. 2009. <i>Tourism: Principles, Practices, Philosophies</i> 11th Edition. Hoboken, NJ: John Wiley &amp; Sons.</li> <li>2. HCVRN. 2017. <i>General Guidelines for the Identification of High Conservation Values</i>. <a href="http://www.hcvnetwork.org">www.hcvnetwork.org</a></li> <li>3. James P. Kimmins. 2004. <i>Forest Ecology: a foundation for sustainable forest management and environmental ethics in forestry</i>, 3rd Edit. Prentice Hall, Upper Saddle River, NJ, USA.</li> <li>4. [PRI] Government of the Republic of Indonesia. 2008. <i>Government Regulation No. 6 Year 2007 jo. Government Regulation No. 3 of 2008 on Forest Planning and Preparation of Forest Management Plans, and Forest Utilization</i>. State Secretariat - Jakarta.</li> <li>5. [PRI] Government of the Republic of Indonesia. 2009. <i>Law No. 32 Year 2009 on Environmental Protection and Management</i>. State Secretariat - Jakarta.</li> <li>6. [Government of the Republic of Indonesia. 2017. <i>Government Regulation No. 46 Year 2017 on Environmental Services Instrument</i>. State Secretariat - Jakarta.</li> <li>7. [PRI] Government of the Republic of Indonesia. 2007. <i>Regulation of the Minister of Forestry Number: P.35/Minhut-ii/2007 concerning Non-Timber Forest Products</i>. State Secretariat - Jakarta.</li> </ol>

Module designation	<i>Conservation Business (KSH1325)</i>
	<p><b>8.</b> <i>Sacande, M. &amp; Parfondry, M. 2018. Non-timber forest products: from restoration to income generation. FAO</i></p> <p><b>9.</b> <i>Tinelle D. Bustam and Taylor Stein. c2022. Principles For Developing Your Ecotourism Business Plan. [accessed september 2022]. <a href="https://edis.ifas.ufl.edu/publication/FR299">https://edis.ifas.ufl.edu/publication/FR299</a></i></p> <p><b>10.</b> <i>UNWTO. 2020. G20 Bali Guidelines For Strengthening Communities And MSMEs As Tourism Transformation Agents. G20 Indonesia 2022. UNWTO.</i></p> <p><b>11.</b> <i>UNWTO. 2023. Understanding and Quantifying Mountain Tourism. The Food and Agriculture Organization of the United Nations (FAO), Rome, Italy, and the World Tourism Organization (UNWTO), Madrid, Spain.</i></p>

### Thematic Services Learning Program (IPB400)

Module designation	<i>Thematic Services Learning Program (IPB400)</i>
Semester(s) in which the module is taught	6
Person responsible for the module	<i>Ninuk Purnaningsih</i>
Language	<i>Bahasa Indonesia</i>
Relation to curriculum	<i>Compulsory Course</i>
Teaching methods	<i>Live in the community and work with thematics services learning program partners, super-visioning by lecturer, discussion</i>
Teaching media and tools	<i>Powerpoint, textbooks, videos, films, drone, laboratory equipments (example: PPE (Protective Personal Equipment), drone, microscope, etc.)</i>
Workload	<i>Lecture session (provisioning) : 20.5 hours Practice field : 7 hours x 21 days = 147 hours Self-learning : 1.5 hours x 21 days = 31.5 hours TOTAL : 199 hours</i>
Credit points	<i>4 SCH x 1.44 = 5.76 ECTS</i>
Required and recommended prerequisites for joining the module	<i>Forestry Field Practices, had a minimum 2.00 GPA and completed at least 108 SCH</i>
Module objectives/intended learning outcomes	<ol style="list-style-type: none"> <li>1. <i>Increase a sense of care and empathy for the problems faced in the community, as well as an understanding of customs and problems faced in the community, as well as an understanding of the customs and culture of the community as well as national insight</i></li> <li>2. <i>Able to identify, plan, implement, and evaluate community empowerment programs in the fields of agriculture in a broad sense, agriculture-based industries, and the environment in an integrated in an integrated manner, both multidisciplinary and interdisciplinary between fields of science at IPB;</i></li> <li>3. <i>Caring and highly committed, skillful in communicating, and collaborating between fields of science to contribute in overcoming cooperation between fields of science to contribute in overcoming problems in society; and</i></li> <li>4. <i>Able to initiate and develop a network of cooperation with stakeholders in problem solving efforts to overcome problems in society; and stakeholders in problem solving efforts to fulfill the needs in the dynamics of actual life in society</i></li> </ol>
Course description	<i>A form of education by providing learning experience for students to live in the middle of community outside the campus, which directly together with the community to identify and deal with agricultural problems in a broad sense and the environment and other development problems faced in the region.</i>

Examination forms	<i>Written examination, program workshop (loka karya), logbook, mass media publication, video, program documentation.</i>
Study and examination requirements	<i>Attendance (17%), Initiative (17%), Program Implementation (17%), Partnership (17%), Peer Assessment (17%), Written examination (15%)</i>
Reading list	<i>NA (Not Applicable)</i>