| **Course Map** | | |
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| **Outline** | | |
| Department Name | Department of Forestry | |
| Class | Forestry  Note: 2023 5th Course Meeting - Addition of new course 'Special Applied Topics in Silviculture'. | |
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| **Educational Objectives** | | |
| **No.** | **Item** | |
| 1 | Cultivate forest resource conservation and management professionals with integration, innovation capabilities and international perspectives | |
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| **Student’s Core Competencies** | | |
| **No.** | **Item** | **Corresponding to Educational Objectives No.** |
| 1 | Basic knowledge and skills in forestry | 1 |
| 2 | Theories and practices in forest biology, conservation and ecology | 1 |
| 3 | Theories and practices in silviculture, forest genetics and breeding | 1 |
| 4 | Theories and practices in forest management | 1 |
| 5 | Basic knowledge and skills in forest biomaterial | 1 |
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| **Lesson Plan** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Chinese Name** | **Course English Name** | **Planning points (See note)** | | | | **Corresponding core competency No.** | **Sugges-ted grade level** | **Offering department** | **Notes** |
| 1 | 2 | 3 | 4 |
| **College Core Courses (If not exempted, please state compulsory or electives)** | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |
| **Compulsory Courses** | | | | | | | | | |
| 林木生理學 | Tree Physiology | U | A | S | 3 | 3-100 | 2 | Department of Forestry |  |
| 樹木學 | Dendrology | U | A | S | 3 | 1-10,2-80,3-10 | 1 | Department of Forestry |  |
| 森林測計學 | Forest Mensuration | U | A | S | 2 | 4-100 | 2 | Department of Forestry |  |
| 森林測計學實習 | Practice of Forest Mensuration | U | B | S | 1 | 4-100 | 2 | Department of Forestry |  |
| 森林生態學 | Forest Ecology | U | A | S | 3 | 2-80,3-20 | 3 | Department of Forestry |  |
| 遺傳學 | Genetics | U | A | S | 3 | 1-10,2-90 | 2 | Department of Forestry | 2019-S2 name update  原林木遺傳學 |
| 育林學及實習 | Silviculture with Practice | U | AB | S | 3 | 1-10,2-10,3-80 | 3 | Department of Forestry |  |
| 森林資源評價學 | Forest Resources Evaluation | U | A | S | 2 | 1-10,2-10,4-80 | 3 | Department of Forestry |  |
| 森林遙感探測學及實習 | Remote Sensing in Forestry with Practice | U | AB | S | 3 | 1-10,4-90 | 3 | Department of Forestry |  |
| 森林經營學 | Forest Management | U | A | S | 2 | 1-10,4-90 | 3 | Department of Forestry |  |
| 森林經營學實習 | Practice of Forest Management | U | B | S | 1 | 1-10,4-90 | 3 | Department of Forestry |  |
| 森林學 | Forestry | U | A | S | 2 | 1-100 | 1 | Department of Forestry |  |
| 普通化學 | General Chemistry | U | A | S | 3 | 1-100 | 1 | Department of Chemistry | 2020-S1 update to compulsory |
| 專題討論(一) | Seminar (Ι) | U | C | S | 1 | 1-20,2-20,3-20,4-20,5-20 | 4 | Department of Forestry |  |
| 專題討論(二) | Seminar (Π) | U | C | S | 1 | 1-20,2-20,3-20,4-20,5-20 | 4 | Department of Forestry |  |
| 生物化學 | Biochemistry | U | A | S | 4 | 1-100 | 4 | Department of Food Science and Biotechnology | 2010-S2  update to 4 credits |
| 微積分(一) | Calculus(I) | U | A | S | 2 | 1-100 | 1 | Department of Applied Mathematics | 2012-S2 semester change |
| 微積分(二) | Calculus(II) | U | A | S | 2 | 1-100 | 1 | Department of Applied Mathematics |  |
| 森林遊樂學 | Forest Recreation | U | A | S | 2 | 1-30,4-70 | 3 | Department of Forestry | 2019-S1 update to 2 credits |
| 林場實習(一) | Forest Camp (Ι) | U | B | S | 1 | 2-50,3-50 | 3 | Department of Forestry |  |
| 林場實習(二) | Forest Camp (II) | U | B | S | 1 | 4-100 | 4 | Department of Forestry |  |
| 統計學 | Statistics | U | A | S | 3 | 1-100 | 1 | Department of Forestry | 2013-S2 Addition |
| 能高森林講座 | Nenggao Forestry Lecture | U | C | S | 2 | 1-20,2-20,3-20,4-20,5-20 | 3 | Department of Forestry | 2015-S2 addition  2017-S2 update eng name |
| 森林土壤學 | Forest Soil Science | U | A | S | 2 | 1-80,2-10,3-10 | 2 | Department of Forestry | 2017-S1 addition |
| 野生動物經營管理 | Wildlife Management | U | A | S | 3 | 2-50, 4-50 | 2 | Department of Forestry | 2018-S2 newly opened |

| **Lesson Plan** | | | | | | | | | | | |
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| **Course Chinese Name** | | **Course English Name** | **Planning points (See note)** | | | | **Corresponding core competency No.** | | **Sugges-ted grade level** | **Offering department** | **Notes** |
| 1 | 2 | 3 | 4 |
| **Elective Courses** | | | | | | | | | | | |
| 育林應用專論 | | Special Applied Topics in Silviculture | U | A | S | 2 | 2-20,3-80 | | 4 | Department of Forestry | 2023-M5 newly added |
| 森林環境學 | | Environmental Science in Forest | U | A | S | 2 | 1-20,2-40,3-40 | | 2 | Department of Forestry | 2010-S1 正課  2023-M2 update to elective |
| 遺傳學實驗 | | Lab in Genetics | U | B | S | 1 | 1-10,2-90 | | 2 | Department of Forestry | 2023-S2 newly added |
| 造林應用及實習 | | Applications and Practices in Silviculture | U | AB | S | 3 | 1-10,2-10,3-80 | | 3 | Department of Forestry | 2023-S2 newly added |
| 森林資源研究方法與論文寫作 | | Principle of Research in Forest Resources and Scientific Writing | U | A | S | 2 | 1-60,2-20,4-20 | | ≧ 4 | Department of Forestry | 2022-M5 both MSc & bachelor  2023-M2 update to 2 credits |
| 農業英文 | | English for Agriculture | U | A | S | 1 | 1-100 | | 2 | College of Agriculture and Natural Resources | 2022-M1 newly added |
| 森林益康與創新應用 | | Forest Benefits and Innovation Application | U | A | S | 2 | 1-20,2-20,3-20,4-20,5-20 | | ≧ 4 | Department of Forestry | 2021-M3 newly added; both MSc & bachelor |
| 野生動物經營管理實習 | | Lab of Wildlife Management | U | B | S | 1 | 2-80,4-20 | | 2 | Department of Forestry | 2018-S2 newly added |
| 林木遺傳學實習 | | Practice of Forest Genetics | U | AB | S | 2 | 1-5,3-85,4-10 | | 2 | Department of Forestry | 2018-S1 newly added |
| 森林衛星定位及繪圖 | | Satellite Positioning and Mapping for Forests | U | A | S | 3 | 1-40,2-30,4-30 | | 2 | Department of Forestry | 2017-S1 newly added |
| 機器學習物種空間型態分析及模擬 | | Machine Learning for Spatial Pattern Analysis and Simulation in Species | U | A | S | 3 | 1-40,2-30,4-30 | | 3 | Department of Forestry | 2017-S1 newly added |
| 地球空間資料萃取及模擬 | | Geospatial Data Extraction and Modeling | U | A | S | 3 | 1-40,2-30,4-30 | | 3 | Department of Forestry | 2016-S2 newly added |
| 永續休閒管理 | | Sustainable Leisure Management | U | A | S | 2 | 4-100 | | 2 | Department of Forestry | 2014-S1 newly added |
| 林木分子遺傳與育種 | | Molecular Genetics and Breeding of Forest Trees | U | A | S | 3 | 3-100 | | 3 | Department of Forestry | 2015-S2 update name |
| 木材化學及實驗 | | Wood Chemistry with Lab | U | AB | S | 3 | 5-100 | | 3 | Department of Forestry | 2012-S1 addition |
| 木材物理及力學 | | Wood Physics and Mechanics | U | A | S | 2 | 5-100 | | 3 | Department of Forestry | 2012-S1 addition |
| 森林環境學實習 | | Lab of Environmental Science in Forest | U | B | S | 1 | 1-20,2-40,3-40 | | 2 | Department of Forestry | 2010-S1 update to elective |
| 國家公園概論 | | Introduction to National Parks | U | B | S | 2 | 1-20,2-60,4-20 | | 4 | Department of Forestry | 2010-S1 newly added  2016-S1 limit to 12 pax |
| 林產學 | | Forest Products Technology | U | A | S | 3 | 5-100 | | 4 | Department of Forestry |  |
| 森林測量學及實習 | | Forest Surveying with Practice | U | AB | S | 3 | 1-20,4-80 | | 2 | Department of Forestry |  |
| 木材組織學 | | Wood Anatomy | U | A | S | 2 | 5-100 | | 1 | Department of Forestry |  |
| 木材成分之生化特性與其生合成 | | Biochemistry and Biosynthesis of Wood Components | U | A | S | 2 | 5-100 | | 3 | Department of Forestry |  |
| 測量學 | | Surveying | U | AB | Y | 4 | 4-100 | | 2 | Department of Soil and Water Conservation |  |
| 林業經濟學 | | Forestry Economics | U | A | S | 2 | 4-100 | | 3 | Department of Forestry |  |
| 林業行政管理 | | Forestry Administration | U | A | S | 2 | 4-100 | | 4 | Department of Forestry |  |
| 育林學原理 | | Principles of Silviculture | U | A | S | 2 | 3-100 | | 3 | Department of Forestry |  |
| 經濟學 | | Economics | U | A | S | 3 | 1-100 | | 1 | Department of Applied Economics |  |
| 樹木學概論 | | Introduction to Dendrology | U | A | S | 2 | 2-100 | | 1 | Department of Forestry |  |
| 樹木學實習 | | Dendrology Laboratory | U | B | S | 1 | 2-100 | | 2 | Department of Forestry |  |
| 樹木生物力學 | | Biomechanics of Tree | U | A | S | 2 | 1-10,5-100 | | 4 | Department of Forestry |  |
| 森林生態學實習 | | Practice of Forest Ecology | U | B | S | 1 | 2-100 | | 3 | Department of Forestry |  |
| 台灣觀賞樹木 | | Ornamental Trees in Taiwan | U | A | S | 2 | 2-80,3-20 | | 3 | Department of Forestry |  |
| 都市林業 | | Urban Forestry | U | A | S | 2 | 2-50,3-40,4-10 | | 3 | Department of Forestry |  |
| 演化生物學 | | Evolutionary Biology | U | A | S | 3 | 2-100 | | 3 | Department of Forestry |  |
| 保育生物學 | | Conservation Biology | U | A | S | 3 | 2-50, 4-50 | | 1 | Department of Forestry | 2018-S1 update to 3 credits |
| 熱帶雨林保育 | | Tropical Rain Forest Conservation | U | A | S | 2 | 1-20,2-80 | | 2 | Department of Forestry |  |
| 生物保育海外研習 | | Overseas Study of Biological Conservation | U | C | S | 1 | 1-20,2-80 | | 4 | Department of Forestry |  |
| 林木育種學 | | Tree Breeding | U | A | S | 2 | 3-100 | | 3 | Department of Forestry |  |
| 森林美學 | | Forest Esthetics | U | A | S | 2 | 2-25,3-25,4-50 | | 1 | Department of Forestry |  |
| 森林保護學 | | Forest Protection | U | A | S | 2 | 1-20,2-20,3-60 | | 3 | Department of Forestry |  |
| 森林土壤學實驗 | | Lab of Forest Soil Science | U | B | S | 1 | 1-20,3-80 | | 2 | Department of Forestry |  |
| 樹苗繁殖法 | | Tree Propagation | U | A | S | 2 | 3-100 | | 3 | Department of Forestry |  |
| 林木生理學實驗 | | Lab of Tree Physiology | U | AB | S | 2 | 3-100 | | 2 | Department of Forestry |  |
| 林木菌根及實習 | | Tree Mycorrhiza with Lab | U | AB | S | 3 | 3-100 | | 2 | Department of Forestry |  |
| 育林學各論 | | Silviculture of Important Trees | U | A | S | 2 | 3-100 | | 4 | Department of Forestry |  |
| 森林規劃 | | Forest Programming | U | A | S | 2 | 1-10,4-90 | | 4 | Department of Forestry |  |
| 林業資料處理 | | Forestry Database and Data Processing | U | A | S | 2 | 4-100 | | 4 | Department of Forestry |  |
| 木材市場 | | Timber Marketing | U | A | S | 2 | 5-100 | | 4 | Department of Forestry |  |
| 森林景觀經營學 | | Forest Landscape Management | U | A | S | 2 | 1-10,4-90 | | 4 | Department of Forestry |  |
| 整合森林資源調查與監測 | | Integrated Forest Inventory and Monitoring | U | A | S | 3 | 4-100 | | 4 | Department of Forestry |  |
| 林政學 | | Forest Policy | U | A | S | 2 | 4-100 | | 4 | Department of Forestry |  |
| 竹林經營法 | | Bamboo Forest Management | U | A | S | 2 | 4-100 | | 4 | Department of Forestry |  |
| 森林生長收穫學 | | Forest Growth and Yield | U | A | S | 3 | 4-100 | | 4 | Department of Forestry |  |
| 畢業論文 | | Thesis | U | C | Y | 2 | 1-25,2-25,3-25,4-25 | | 4 | Department of Forestry |  |
| 國際林業海外研習 | | Overseas Study of International Forestry | U | C | S | 1 | 1-25,2-25,3-25,4-25 | | 4 | Department of Forestry |  |
| 林木結構與功能 | | Tree Structure and Function | U | A | S | 1 | 4-100 | | 4 | Department of Forestry |  |
| 森林生物多樣性 | | Forest Biodiversity | U | A | S | 2 | 1-10,2-70,3-10,4-10 | | 3 | Department of Forestry | 2019-S2 update to 2 credits |
| 集水區的環境監測與分析 | | Watershed Environmental Measurement and Interpretation | U | A | S | 2 | 1-10,2-20,3-70 | | 4 | Department of Forestry |  |
| 大氣沈降與森林生態系養分循環 | | Atmospheric Deposition and Forest Nutrient Cycling | U | A | S | 2 | 1-10,2-20,3-70 | | 4 | Department of Forestry |  |
| 植物分類原理 | | Principles of Plant Taxonomy | U | A | S | 3 | 2-100 | | 3 | Department of Forestry |  |
| 經濟樹木學各論 | | Dendrology of Economical Important Species | U | A | S | 2 | 2-100 | | 3 | Department of Forestry |  |
| 臺灣特有植物概論 | | Introduction to Endemic Plants in Taiwan | U | A | S | 2 | 2-100 | | 3 | Department of Forestry |  |
| 植物地理學概論 | | Introduction to Phytogeography | U | A | S | 2 | 2-100 | | 3 | Department of Forestry |  |
| 民俗植物學 | | Ethnobotany | U | A | S | 2 | 1-20,2-80 | | 3 | Department of Forestry |  |
| 外來植物概論 | | Introduction to Alien Plants in Taiwan | U | A | S | 2 | 1-10,2-90 | | 3 | Department of Forestry |  |
| 社會調查 | | Social Survey | U | A | S | 2 | 4-100 | | 4 | Department of Forestry |  |
| 自然保護區管理 | | Natural Protection Area Management | U | A | S | 2 | 1-20,2-80 | | 4 | Department of Forestry |  |
| 森林與氣候變遷 | | Forest and Climate Change | U | A | S | 2 | 1-20,2-30,3-20,4-30 | | 4 | Department of Forestry |  |
| 林木資源經營 | | Timber Resources Management | U | A | S | 2 | 4-100 | | 4 | Department of Forestry |  |
| 社區林業 | | Community Forestry | U | A | S | 2 | 4-100 | | 4 | Department of Forestry |  |
| 地景生態學 | | Landscape Ecology | U | A | S | 3 | 2-20,4-80 | | 4 | Department of Forestry |  |
| 生態旅遊 | | Ecotourism | U | A | S | 2 | 1-20,4-80 | | 3 | Department of Forestry |  |
| 地球空間資訊系統及製圖 | | Geo-spatial Information System and Map-making | U | A | S | 3 | 4-100 | | 2 | Department of Forestry |  |
| 地球空間資料分析及應用 | | Geo-spatial Data Analysis and Applications | U | A | S | 3 | 4-100 | | 4 | Department of Forestry |  |
| 普通生物學 | | General Biology | U | A | S | 3 | 1-100 | | 1 | Department of Life Sciences | 2020-S1 update to elective  2021-M2 name change |
| 普通化學實驗 | | Lab of General Chemistry | U | B | S | 1 | 1-100 | | 1 | Department of Chemistry |  |
| 計算機概論 | | Introduction to Computer Science | U | A | S | 3 | 1-100 | | 1 | Institute of Data Science and Information Computing |  |
| 農業概論 | | Introduction to Agriculture | U | A | S | 2 | 1-100 | | 1 | College of Agriculture and Natural Resources |  |
| 地質學 | | Geology | U | A | S | 3 | 1-100 | | 1 | Department of Soil and Environmental Sciences |  |
| 森林水文學 | | Forest Hydrology | U | A | S | 2 | 1-100 | | 3 | Department of Soil and Water Conservation |  |
| 水土保持學 | | Soil and Water Conservation | U | A | S | 2 | 1-100 | | 2 | Department of Soil and Water Conservation |  |
| 生物化學實習 | | Lab of Biochemistry | U | B | S | 2 | 1-100 | | 3 | Department of Food Science and Biotechnology |  |
| 造園學 | | Introduction to Landscaping | U | A | S | 3 | 1-100 | | 3 | Department of Horticulture |  |
| 樹病學 | | Forest Pathology | U | A | S | 3 | 1-30,2-60,4-10 | | 4 | Department of Plant Pathology |  |
| 森林昆蟲學 | | Forest Entomology | U | AB | S | 3 | 1-40,2-30,4-30 | | 4 | Department of Entomology | 2022-M5 name change |
| 真菌學 | | Mycology | U | AB | S | 4 | 1-100 | | 2 | Department of Plant Pathology |  |
| 氣候學 | | Climatology | U | A | S | 3 | 1-100 | | 1 | Department of Soil and Environmental Sciences |  |