

BOTANY 422 - PLANT GEOGRAPHY
Lecture Outline, Spring 2021

INTRODUCTION

Week 1 Jan. 25 Introduction to Course

BIOMES AND CLIMATIC ADAPTATION

Jan. 27 World Climate and Vegetation I

Jan. 29 World Climate and Vegetation II

Week 2 Feb. 1 Vegetation vs. Flora

Feb. 3 Tropical Rainforest

Feb. 5 Tropical Montane Forests (cloud, paramo, puna)

Week 3 Feb. 8 Tropical Deciduous Forests and Savannas

Feb. 10 Deserts

Feb. 12 Mediterranean Sclerophylls

Week 4 Feb. 15 Temperate Forests (rain, deciduous)

Feb. 17 Boreal, Tundra and Alpine

Feb. 19 Temperate Grasslands

DISTRIBUTIONS OF SPECIES

Week 5 Feb. 22 Distributions & Floristic/Faunistic Regions I

Feb. 24 **EXAM 1**

Feb. 26 Distributions & Floristic/Faunistic Regions II

Week 6 Mar. 1 Biogeographical Depositories – Using the “Species Niche”

EVOLUTION OF SPECIES

Mar. 3 Evolution, Convergence, and Biogeography

Mar. 5 Geographical Variation Within Species

Week 7 Mar. 8 Geographical Variation and Speciation

HISTORICAL BIOGEOGRAPHY

Mar. 10 Historical Biogeography — a History of Ideas

Mar. 12 Earth History and Biogeography

Week 8 Mar. 15 Life History and Biogeography

Mar. 17 Relationships of Floras: Southern Hemisphere

Mar. 19 Relationships of Floras: The Wallace Line(s)

Week 9 Mar. 22 Relationships of Floras: Eastern Asia — Eastern North America

Mar. 24 Phylogeography — Geography and Evolution in the Species

Mar. 26 PhyloEcoGeography — Evolution of Species Niches

Week 10 Mar. 29 Equilibrium Theory of Island Biogeography

BIOGEOGRAPHY OF ISLANDS

Mar. 31 **EXAM 2**

Apr. 2 **Spring Break**

Week 11 Apr. 5 Islands and Dispersal Biology

Apr. 7 Islands and Adaptive Radiations

Apr. 9 Biogeography of the Hawaiian Islands

Week 12 Apr. 12 Islands in the Sky: Tepuis and Paramo

ORIGIN AND BIOGEOGRAPHY OF NORTH AMERICAN FLORAS

Apr. 14 Origin and Biogeography of Ancient Floras: Paleozoic

Apr. 16 Origin and Biogeography of Ancient Floras: Mesozoic

- Week 13 Apr. 19 Origin and Biogeography of North American Flora: Tertiary
Apr. 21 Origin and Biogeography of North American Flora: Pleistocene
Apr. 23 Biogeography of Great Lakes Region: Holocene
- Week 14 Apr. 26 Pleistocene Climate and Tropical Forests

GLOBAL CHANGES AND PLANT GEOGRAPHY

- Apr. 28 Weeds — Changing Plant Distributions
- Apr. 30 Climate Changes — Changing Plant Distributions and Conservation
Biogeography

EXAM 3: – during final exam time, not cumulative