Plant & Microbial Biology 135

PHYSIOLOGY AND BIOCHEMISTRY OF PLANTS
Fall Semester 2016
Course Control Number: 26099
M,W,F 10-11 AM, 103 GPB

Instructors:
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Office hours: 11 am - 12 noon, M, W, F or by appointment

Absolute Prerequisites:
Bio 1A, 1B, and Chem 3B, or equivalent.

Lectures: MWF 10-11 am, 103 GPB Building

Textbook: Plant Physiology, L. Taiz & E. Zeiger,

Exam schedule:
To be defined
I. PLANTS AND WATER
   Plant Structure
   Factors Affecting Water Movement

II. PHYSIOLOGY OF PHOTOSYNTHESIS
    Photosynthetic Responses to CO₂, Light and Temperature

III. PLANT TRANSPORT MECHANISMS
     Diffusive Transport
     Carriers and Channels
     Ion Transport Pathways
     Phloem Transport

IV. ASSIMILATION OF SULFUR
    Sulfate Reduction and Assimilation Reactions

V. ASSIMILATION OF N, P, Fe, & NUTRIENT CATIONS
    Nitrate Reduction
    Uptake and Assimilation of Other Nutrients

VI. NITROGEN METABOLISM
    Nitrogen Fixation of Legume Nodules
    Nitrogen Fixation in Cyanobacteria

VII. LIGHT AND LIFE
     Irradiance, Atmosphere and Evolution of Life

VIII. PORPHYRINS AND TERPENOIDS
      Chlorophylls, Hemes, Carotenoids

IX. PHOTOSYNTHESIS
    Light Reactions, Carbon Reactions

X. SPECIALIZED FORMS OF PHOTOSYNTHESIS
    C4, CAM

XI. PLANT EVOLUTIONARY ASPECTS
    Intracellular Protein Import, Isozymes, Endosymbiosis

*Topics subject to change at the discretion of the instructor/department.