

# Introduction to Botany: BIOL 154

## Lab 6. Stems I

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### Preparation/reading:

1. Study figs. 4.9 and 5.2 from textbook (or their monochrome variants below)
2. Be able to recognize, label and describe all the tissues of a stem cross section: epidermis, collenchyma, cortex, pith, vascular bundle, xylem, phloem, sclerenchyma fibers, procambium, sieve tube member cell, companion cell, parenchyma cell, vessel member, tracheid
3. Young stem—stem cross section of *Helianthus* sp. (sunflower). Procedure: prepared slide. Assignments:
  - (a) Draw complete stem or section of it, overview
  - (b) Label: epidermis, collenchyma, cortex, pith, vascular bundle, xylem, phloem, sclerenchyma fibers, procambium
4. Young stem—stem cross section of *Zea mays* (maize). Procedure: prepared slide. Assignments:
  - (a) Draw complete stem or section of it, overview
  - (b) Label: epidermis, ground tissue, vascular bundle, xylem, phloem, sclerenchyma fibers
  - (c) Draw whole vascular bundle or section of it
  - (d) Label: sieve tube member cell, companion cell, parenchyma cell, sclerenchyma fiber, vessel member, tracheid
5. Tracheid types—stem longitudinal section of *Trifolium* sp. (clover). Procedure: prepared slide. Assignments:
  - (a) What is the wall texture of the tracheary elements: annular, spiral, scalariform, reticulate, or pitted?

# Illustrations

