

## Plant Development and Morphogenesis

### Molecular and physiological basis of development

- Jan 20 Central Question: continuous dev. and plasticity in plant form  
25 Cellular information; polarity; cell wall and developmental fate  
27 From the tiny acorn.: embryogenesis, axis dev., and germination  
Feb 1 Germination strategies, vivipary, neoteny  
3 Positional information; cell fate; totipotency and the unsilencing of genes  
8 Auxin-induced regulation of gene expression  
10 Signalling between shoot apical meristem and leaf primordia  
15 ABC model and flowering  
**\*17 EXAM: 100 points**

### Expressions of development: themes and variations in plant form

- 22 Shoot organization; phase changes in morphogenesis (juv. and adult)  
March 1 Phyllotaxis; control of leaf position and branching  
3 Specialized branches; control of branch outgrowth; internode elongation  
8 Internode growth; axis thickening  
10 Specialized shoots, including Vitis (Grape)  
**\*15 EXAM: 100 points**

### Developmental responses to environmental factors

- 29 Signal integration and regulation in shoots; Vines; tree architecture  
31 Leaf development and its control  
April 5 Mechanism of variation in leaves: bananas and ferns  
7 Versatility in root systems  
12 Development in extreme environments: stem succulents  
14 Cacti  
19 Wetland and aquatic plants  
21 Epiphytic plants  
26 Parasitic plants  
28 Overview: coordination of cell fate, pattern development, and autotrophic life

**FINAL EXAM (F+ TR Block) : Friday May 6 at Noon (150 points)**