BOTANY (BIO 151) LECTURE TOPICS

WEEK 1	INTRODUCTION A Brief Plant Evolution to the Green Revolution	Ch. 1 & 31	
WEEK 2	PLANT CLASSIFICATION	Ch. 10	Appendix C (728)
WEEK 3	THE BASIC PLANT Parts, Growth, and Life Stages		Ch. 2 & 23 (488)
WEEK 4	PLANT CELLS		Ch. 2 & 21
WEEK 5	ROOTS		Ch. 22
WEEK 6	STEMS Primary Growth, Stem Modifications		Ch. 23
WEEK 7	SECONDARY GROWTH		Ch. 24
WEEK 8	LEAVES Leaf Modifications		Ch. 23
WEEK 9	PHOTOSYNTHESIS (Review Ch. 3 & 4)		Ch. 5 & 7
WEEK 10	RESPIRATION		Ch. 5 & 6
WEEK 11	BIOSYNTHETIC PATHWAYS		Ch. 5 & 6
WEEK 12	MOVEMENT OF MATERIALS IN PHLOEM		Ch. 28
WEEK 13	MOVEMENT OF WATER IN PLANTS/SOIL Cohesion Tension Theory; Root Pressure; Soil Water (Review Ch. 4)		Ch. 27 & 28
WEEK 14	TRANSPIRATION Adaptations to Dry, Wet, Average Moisture Conditions		Ch. 23 & 28
WEEK 15	HORMONES		Ch. 25 & 26
WEEK 16	FINISH UP		

BOTANY (BIO 151) TENTATIVE LABORATORY SCHEDULE BY TOPICS

Week 1 **Introductions**: You, Me Botany, **Ex. 4** (p.49),
Using our microscopes, look at two plant cells Chapt. 1 and 3

Ex. 1 (p.3), The whole plant, monocots,and eudicots (dicots) Chapt. 26, p.610 and Chapt.21, p495-498

Week 2 **Ex.2** (p.13), Seed structure and germination Chapt. 23

Ex. 11 (p.109) and handouts, Leaves; structure and use in classification Chapt. 23 p.624-626

Week 3 **Ex.13** (p. 133) Flowers Chapt. 22 and 21 p.498-502

Ex. 14 (p. 149) Fruits Chapt. 22 p.543-549

Week 4 **Handout**; Plant diversity - field trip, Dahlem Center

Ex.3 (p. 21) Seed germination Chapt. 23

Week 5 **Ex. 4** (p.29) More plant cells and a handout Chapt. 3 and 24

Ex 5 (p. 37) Root and apical meristem (mitosis) Chapt 25 and 8, p.157-167

Week 6 **Ex. 6** (p. 49) Internal structure and function of roots Chapt. 25

Laboratory Practical

Week 7 Introduction to Fast Plants and beginning of research project

Ex. 7 (p. 59) Herbaceous stems Chapt. 26

Week 8 **Ex. 8** (p. 73) Woody stems, gymnosperms Chapt. 27

Ex. 9 (p.81) Woody stems, angiosperms Chapt 27

Week 9 **Ex. 10** (p.89) Woody stems, growth Chapt. 27

Ex. 11 and 12 (p.109 and 121) Leaves, internal (review external), adaptations to extremes Chapt. 26

Week 10 **Ex. 15** (p.157) Water movement (osmosis, diffusion, plasmolysis and imbibition) Chapt. 4 and 31

Ex. 15 (p.166) Gas movement (transpiration and guttation) Chapt. 31

Week 11	**Ex. 16** (p. 171) Photosynthesis	Chapt. 7
	Ex. 17 (p. 181) Digestion and respiration	Chapt. 5 and 6
Week 12	**Laboratory Practical**	
	Survey lab	Chapt. 14, 15, 16 and 17
Week 13	Survey lab, continued	Chapt. 14, 15, 16 and 17
	Ex. 25 (p. 263) Mosses and liverworts	Chapt. 18
Week 14	**Ex. 26** (p. 277) Lower vascular plants	Chapt 19
Week 15	**Ex 27** (p.293) Cone-bearing seed plants	Chapt 20
	Ex 28 (p. 303) Flowering seed plants	Chapt 21
Week 16	Field trip to M.S.U., Botany Department Presentation	
	Laboratory Practical	

Lecture topics follow lab topics as closely as possible but often are out of sync with one another. Refer to the chapters for the laboratory topics and additional assignments will be given from time to time in lecture.