

PLANT BREEDING AND GENETICS CURRICULUM									
Course number	Description	Hrs	Instructor	Even Yrs.	Odd Yrs.	F	W	S	Comments
<i>Plant Breeding and Genetics</i>									
CSS/HORT 430/530	Plant Genetics	3	Hayes	X	X		X		Only 400-level by 2007
CSS/HORT 430	Recitation	1	Hayes	X	X		X		
FS 430/530	Biotech: Ag., Food and Res. Issues		Strauss	X	X			X	
FS 444/544	Forest Genetics	3	Howe			X			Replaced by "Genecology" in 2007?
FS/CSS/HORT 505/605	Current Literature in Plant Genetics		Howe	X	X			X	
CSS/HORT 450/550*	Plant Breeding	4	Mehlenbacher	X	X		X		
HORT 505b	Breeding Clonally Propagated Crops	1	Mehlenbacher	X			X		
HORT 512*	Crop Domestication	1	Myers	X			X		Will develop into a full course
HORT 512*	Intellectual Property in Plant Breeding	1	Myers		X		X		Will be offered winter 2007
GEN 530	Introduction to Population Genetics	3	Blouin					X	Alternate years?
HORT/MCB/GEN 573*	Cytogenetics	3	Mok		X		X		To be replaced by CSS 598
CSS 598	Plant Chromosome Biology	3	Riera-Lizarazu						
HORT 611*	Plant Genetics	3	Mock						Not offered after 2007
CSS 620	DNA Fingerprinting	1	Vales/Riera-Lizarazu		X	X			
CSS 621	Genetic Mapping	1	Vales/Riera-Lizarazu		X	X			
CSS 622	QTL Analysis	1	Vales/Riera-Lizarazu		X	X			
CSS 630	Current Topics in Plant Breeding (Advanced Plant Breeding I)	3		X				X	May be changed to R&C journal discussion
CSS 650	Advanced Plant Breeding II	3	Kling (& Henning?)		X			X	Quantitative Genetics in Plant Breeding

<i>Molecular Biology</i>									
HORT 513	Plant Genetic Engineering	3	Chen						Emphasis on Transformation
BB 550*	Biochemistry	4		X	X	X	X		
BB 551*	Biochemistry	3		X	X		X	X	
BB 552	Biochemistry	3		X	X			X	
BB 590	Biochemistry (majors)	3		X	X	X			
BB 591	Biochemistry (majors)	3		X	X		X		

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BB 592	Biochemistry (majors)	3		X	X			X	
BB 593	Biochemistry Lab (fundamentals)	3		X	X	X			
BB 594	Biochemistry Lab (nucleic acids)	3		X	X		X		
BB 595	Biochemistry Lab (radioisotopes)	3		X	X			X	
MCB 524	Molecular and Cellular Biology Tech.	1	Carroll/Hase			X			
MCB 525*	Techniques in Mol. and Cellular Biol.	3	Carroll/Hase			X			
MCB 526	Advanced Biotechnology Techniques	1-4	Carroll coordinator			X			
MCB 553	Structure & Function of Eukar. Cells	3	Fowler/Zhang				X		
MB/MCB/GEN 554	Genome Organization, Structure, & Maintenance	4	Ream/Hays			X			
MCB/GEN 555*	Genome Expression and Regulation (new name pending)	4	Merrill				X		
MCB/GEN 556	Cell Signaling and Development	3	Zhang/Fowler					X	
BOT/MCB/GEN 625	Plant Molecular Genetics	3	Rivin	X		X			Emphasis on Developmental Gen.; MCB 555 is prereq. The term may change.
<i>MB/MCB/GEN 636</i>	<i>Molecular Virology</i>	<i>4</i>							<i>No longer offered</i>
<i>BB 653</i>	<i>Photosynthesis and Plant Biochemistry</i>	<i>3</i>	<i>Arp</i>	<i>X</i>	<i>X</i>			<i>X</i>	<i>No longer offered</i>
MB/MCB 668	Genomics and Cellular Evolution	4	Giovannoni				X		
PHL 544	Bioethics	4							

Botany, Plant Physiology and Nutrition									
<i>BOT 488/588</i>	<i>Environmental Physiology of Plants</i>	<i>3</i>							<i>Inactive</i>
<i>BOT 513</i>	<i>Plant Anatomy</i>	<i>3</i>							<i>No longer offered</i>
CSS 515	Soil Fertility Management	3							
HORT 516	Advanced Plant Nutrition	4	Righetti				X		
HORT 517	Diagnosis of Mineral Nutritional Disorders	1	Righetti						

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BOT 521	Advanced Plant Systematics	4							Inactive: Probably will be dropped and replaced by Bot/Zoo 556
BOT/ZOO 556	Phylogenetics		Liston	X			X		
CSS 523	Principles of Stable Isotopes	3							
BOT 525	Plant Taxonomy	3	Liston	X	X			X	
BOT 533	Hormonal Regulation of Plant Growth and Development	3							Alt. years
HORT/MCB 541*	Plant Tissue Culture	4	Mok						
BOT 547	Nutrient Cycling	3	Lajtha	X	X	X			
HORT 552	Small Fruit and Grape Phys. and Culture	4	Strik						
CSS 560	Seed Production	3							
FS 561	Physiology of Woody Plants	3	Bond		X	X			
HORT 564	Adv. Seed Biology	3	Nonogaki						
BOT 634	Plant Water Relations	3							
CSS 670	Physiology of Crop Yield	3	Chastain	X			X		

Plant Pathology & Entomology									
BOT 415/515	Forest Insect and Disease Mgmt	5	Hansen	X	X	X			
ENT 516	Insect Physiology	3							
BOT 550	Plant Pathology	5		X	X	X			
BOT 552	Plant Disease Management	4	Johnson, Mundt, Ingham	X			X		Alternate years
BOT 553	Plant Disease Diagnosis	3	Pscheidt						Alt. years, summer only
BOT 554	Plant Pathogenic Nematodes	2	Ingham		X		X		Alt years
BOT 555	Plant Virology	3	Dolja		X			X	Alt years
BOT 556	Plant Pathogenic Fungi	3							No longer offered
BOT 557	Plant Pathogenic Bacteria	2							No longer offered
BOT/MCB 651	Molecular Basis of Plant Pathogenesis	3	Wolpert		X			X	Alt. years
BOT 668	Plant Disease Dynamics	4	Mundt	X				X	Alt. years

Biometrics									
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ST 511*	Methods of Data Analysis I	4		X	X		X		
ST 512*	Methods of Data Analysis II	4		X	X		X	X	
ST 513	Methods of Data Analysis III	4		X	X			X	
ST 515	Design and Analysis of Planned Expts.	3		X	X			X	
FS 523	Natural Resource Data Analysis	4	Ganio	X	X		X		
CSS 590	Field Plot Technique	4	Kling	X	X		X		Only 500-level by 2007 "Experimental Design in Agriculture"?
Professional Skills									
CSS/HORT 505	Practicum in Teaching	1-3		X	X				
CSS 599	Professional Development	1		X	X				
FS 521	Natural Resource Research Planning	2	Howe	X	X		X		Proposal writing and presentation
Various	Seminar			X	X				

*required for Plant Breeding specialty in HORT