MS AGRICULTURE, SPECIALIZATION IN BIORESOURCE AND AGRICULTURAL SYSTEMS

Program Learning Objectives

1. Demonstrate expertise in their respective discipline.
2. Develop, test or select the appropriate technology in their respective discipline.
3. Demonstrate effective communication skills.
4. Formulate decisions utilizing professional ethics.
5. Value the diversity of people and ideas.
6. Investigate problems using critical thinking and derive appropriate solutions.

Required Courses		
AG 581	Graduate Seminar	2
BRAE 599	Thesis in BioResource and Agricultural Engineering	9
ESCI 501	Research Planning	4
STAT 511	Statistical Methods	4
STAT 513	Applied Experimental Design and Regression Models	4
Approved Elective Options [1]		22
Students may be required to take undergraduate level prerequisites for selected electives. The final elective approval is at the discretion of the students' graduate committee		
General		
BRAE 418	Agricultural Systems Management I	
BRAE 419	Agricultural Systems Management II	
Agricultural and Food Processing Waste Management		
BRAE 435	Drainage	
BRAE 440	Agricultural Irrigation Systems	
BRAE 532	Water Wells and Pumps	
NR/CRP 404	Environmental Law	
NR/CRP 408	Water Resource Law and Policy	
NR 416	Environmental Impact Analysis and Management	
NR 420	Watershed Assessment and Protection	
NR 465	Senior Project - Ecosystem Management	
Renewable Energy		
BRAE 448	Bioconversion	
EE 420	Sustainable Electric Energy Conversion	
EE/PHYS 422	Polymer Electronics Laboratory	
EE 520	Advanced Solar-Photovoltaic Systems Design	
ENVE 542	Sustainable Environmental Engineering	
California Production Agriculture and Food Systems		
BRAE 432	Agricultural Buildings	
IME 430	Quality Engineering	
ITP 409	Packaging Machinery and Processes	
PLSC 421	Postharvest Technology of Horticultural Crops	
Precision Agriculture		
BRAE 447	Advanced Surveying with GIS Applications	
BRAE 481	Advanced Agricultural Mechanics	
NR 418	Applied GIS	
PLSC 406	Advanced Weed Management	
PLSC 410	Crop Physiology	
PLSC 445	Cropping Systems	
SS 431	Digital Soil Mapping	
Automation and Mechanization		
BRAE 425	Computer Controls for Agriculture	
IME 416	Automation of Industrial Systems	
Any 400 and 500 level courses approved by the student's graduate committee [1]		
Total units		**45**

[1] At least 60% of all units required by the committee as reflected on the formal study plan must be at the 500 level.