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-PV Systems Design

ENVE 542 Sustainable Environmental Engineering

California Production Agriculture and Food Systems
AEPS 421 Postharvest Technology of Horticultural Crops
BRAE 432 Agricultural Buildings
IME 430 Quality Engineering
ITP 409 Packaging Machinery and Processes

Precision Agriculture
AEPS 406 Advanced Weed Management
AEPS 410 Crop Physiology
AEPS 423 Advanced Vegetable Science
AEPS 445 Cropping Systems
BRAE 447 Advanced Surveying with GIS Applications
BRAE 481 Advanced Agricultural Mechanics
NR 418 Applied GIS
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.