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
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.