

MS AGRICULTURE, SPECIALIZATION IN WATER ENGINEERING

Program Learning Objectives

Graduates are prepared to:

1. Demonstrate expertise and the use of technology in their respective discipline.
2. Demonstrate effective oral and written communication skills.
3. Make choices based on an understanding of personal and professional ethics and respect for diversity of people and ideas.
4. Recognize leadership principles and skills.
5. Evaluate and solve problems using critical thinking.
6. Demonstrate an appreciation for sustainability and global perspectives.

Required Courses

| | | |
|----------------------------|--|-----|
| ESCI 501 | Research Planning | 4 |
| STAT 511 | Statistical Methods | 4 |
| STAT 513 | Applied Experimental Design and Regression Models | 4 |
| Select from the Following: | | 2-3 |
| AG 581 | Graduate Seminar | |
| CE 591 & CE 592 | Graduate Seminar I and Graduate Seminar II | |
| BRAE 414 | Irrigation Engineering | 4 |
| BRAE 532 | Water Wells and Pumps | 4 |
| BRAE 533 | Irrigation Project Design | 4 |
| CE 533 | Advanced Water Resources Engineering | 4 |
| BRAE 599 | Thesis in BioResource and Agricultural Engineering (2, 2, 5) | 9 |

Approved Electives

| | | |
|---|---|---|
| Select from the following: ¹ | | 6 |
| BRAE 435 | Drainage | |
| BRAE 440 | Agricultural Irrigation Systems | |
| CE 434 | Groundwater Hydraulics and Hydrology | |
| CE 435 | Engineering Hydrology | |
| CE 440 | Hydraulic Systems Engineering | |
| CE 536 | Computer Applications in Water Resources with Geographic Info Systems (GIS) | |
| ENVE 436 | Introduction to Hazardous Waste Management | |
| ENVE 438 | Water and Wastewater Treatment Design | |
| ENVE 535 | Physico-Chemical Water and Wastewater Treatment | |
| ENVE 542 | Sustainable Environmental Engineering | |

| | |
|----------|--|
| ECON 410 | Public Finance and Cost-Benefit Analysis |
| ECON 435 | Economics of Land and Water |

Total units **45-46**

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