WATER SCIENCE AND MANAGEMENT (AGRICULTURAL WATER RESOURCES) - DOCTOR OF PHILOSOPHY

This degree is designed to give students a thorough and comprehensive knowledge of water science and hydrology and training in methods of research. The Ph.D. degree can be earned in about 33-35 credits of formal course work beyond the Masters Degree, plus 18 additional dissertation research credits, for a minimum total of 75 credits beyond the BS degree, as detailed below. This degree has five available concentrations.

Prefix	Title	Credits
Core Courses		
AEEC 5350	Economics of Water Resource Management and Policy	3
RGSC 518	Watershed Methods and Management	3
or SOIL 456	Irrigation and Drainage	
C E 557	Water Resources Development	3
Select one from the following:		3-4
GEOG 578	Fundamentals of GIS	
GEOG 588	GIS and Water Resources	
Select one from the following: [1]		3-4
A ST 505	Statistical Inference I	
C E 582	Statistical Hydrology	
GEOG 585	Spatial Analysis and Modeling	
Seminar Credits OR Select one from the following: [2]		2-3
WSAM 605	Arid Land Water Resources	
WSAM 610	Water and Sustainable Economic Development	
GEOG 501	Introduction to Geographic Theory and Application	
Concentration Electives		
Students must work with their committee to select 12 credits of elective courses that would meet the Agricultural Water Resources concentration		12
Electives chosen in consultation with the student's committee (enough to meet the required minimum of 75 credits)		**28**
Dissertation		**18**
WSAM 700	Doctoral Dissertation	
Total Credits		**75-78**

1. With the consent of the instructor and the approval of the student's advisor, C E 582 Statistical Hydrology or GEOG 585 Spatial Analysis and Modeling may be used as a substitute.
2. Seminar may be substituted by WSAM 605 Arid Land Water Resources, or WSAM 610 Water and Sustainable Economic Development, or GEOG 501 Introduction to Geographic Theory and Application.

Students are expected to have a basic foundation in Geographic Information System (GIS) within a classroom, research experience, or professional experience. Students without this background are required to take an appropriate GIS class as advised by their advisor such as: GEOG 578 Fundamentals of GIS, or FWCE 535 Special Topics.