

# Water Resource Management, M.S. - Continuing & Global Education

## DEPARTMENT

MN in Geology, Minor  
BS in Geology, B.S.  
MS in Geology, M.S.  
BS in Environmental Sciences, B.S.  
MS in Water Resource Management, M.S. - Continuing & Global Education  
CERT in Geographic Information Systems, Certificate of Adv Study - Continuing & Global Education  
CRED in Single Subject Credential - Geological Science

## REQUIREMENTS

Department of Earth and Environmental Sciences

### **Master of Science in Water Resource Management Degree Requirements**

The M.S. in Water Resources Management is an online degree program offered through the Division of Continuing and Global Education. Classes within the degree program can only be taken after qualifying for admission to the M.S. degree program. In addition to meeting the requirements for a classified graduate student standing set forth by the university's Division of Graduate Studies, students must complete the predetermined courses in a predetermined sequence over the five-semester period.

The M.S. in Water Resource Management was developed to meet the growing demand for advanced knowledge in water resources and their use in the urban, industrial, and agricultural environment. The degree includes political and policy aspects of water use as well as an understanding of the economics involved. The program of study will rely upon the use of Geographic Information Systems (GIS) to assemble and analyze databases describing water availability, use, and reclamation. The student will also gain a proficiency in water management that relies on spatial visualizations and basic modeling skills used to track the natural variability of water supplies and water-use forecasting. Each student will acquire a deep understanding of the physical processes of water delivery and storage along with the management of these water resources.

The aim and goal of the M.S. degree in Water Resource Management is to introduce the student to a systematic understanding of how water is delivered to the terrestrial environment from our climate system, follow it through its storage and use. Water moves through the natural and manmade environment where it is monitored, pumped, and applied to urban and agricultural systems. Once used, it then must be treated as effluent and returned to the natural environment. The student is expected to integrate the effects of changes in water availability in terms of supply and also the effect on its economics and the politics surrounding these changes.

The M.S. in Water Resource Management consists of eight courses, an internship with 150 hours working in a professional environment, and a culminating project course (Water Resource Management Project) for a total of 30 units of graduate level academic credit. Each of the classes will be taught entirely online with instructors using a variety of delivery styles and methods to interact with the students. The desired design is to complete the program as a cohort (i.e., lock-step program). Courses are based on the concepts learned in previous courses and students must enroll in courses in the chronological order listed below. Successful completion of all courses is required to earn the M.S. in Water Resources Management.

The students are required to complete a "Fundamentals of Geographic Information Systems (GIS)" class that will instruct them on the basics of ArcGIS software prior to the programs initiation. This prerequisite can be satisfied by taking EES 211 (offered through Continuing and Global Education), baccalaureate GIS classes, or technical classes offered through ESRI or other GIS software companies. GIS will be used in many of the assignments throughout the program.

Formal admission to Fresno State through CSU mentor is required for participation in the M.S. in Water Resource Management with the exception of graduate students who are currently admitted to the university. All candidates interested shall meet the university admission requirements including the following criteria. Applicants will qualify if they already hold a bachelor's degree from an accredited institution of higher education and hold a 3.0 or higher grade point average (GPA calculated from the last 60 unites from an accredited institution)

### **Core Classes (24 units)**

EES 212, 264, 265, 266, 267, 268, 269, 270

### **Internship (3 units)**

EES 263

**Final Project (3 units)**

EES 298

**Total (30 units)**

## **FACULTY**

For faculty phone numbers and e-mail, see the campus directory.

For more on the faculty, see the faculty pages.

The faculty pages are updated by the department or program.