APPLIED GEOSCIENCES, MSAG

The Online Master of Science in Applied Geosciences in the College of Liberal and Professional Studies and Department of Earth and Environmental Science (EES) is a 12-cu, graduate program designed to prepare mid-career professionals (minimum 3-years' experience, preferably 5-10 years) in geoscience organizations (consulting, government, non-profit/NGO) for the next step in their careers. In this entirely online program, students take 9 cu's of required courses and 3 cu's of electives. As a culminating exercise, students must complete a Project Design capstone that is an applied project directly related to their career goals.

Curriculum

Students are required to complete 12 cu's of graduate level course work for the program. Students must take nine required courses, three electives, and complete a Masters level Project Design or capstone positively evaluated by two readers in order to earn the MS Applied Geosciences degree.

Code	Title	Course Units
Required Courses		**9**
EESC 5200	Aqueous Geochemistry	
EESC 6810	Applied and Environmental Geophysics	
EESC 6770	Geocomputations	
EESC 5630	Hydrology	
EESC 6820	Geomechanics: Solids	
EESC 6620	Environmental Groundwater Hydrology	
EESC 6830	Geomechanics: Fluids	
EESC 6840	Engineering Geology: Rock Mechanics	
EESC 6998	Project Design	
Three Elective Courses		**3**
Students will choose three electives to complement their backgrounds and reach their career goals.Students choose from a selection of courses that are designed to help mid-career professionals boost career opportunities.		
EESC 5704	Geologic Field Methods	
EESC 6606	Fate and Transport of Pollutants	
EESC 6710	Environmental Statistical Analysis	
EESC 6206	Geochemical Modeling	
EESC 6720	Landslides	
ENVS 5706	Modeling Geographical Objects	
Total Course Units		**12**

Project Design Capstone Requirement

The project design capstone research is the culmination of the student's career. The capstone draws on methodology directly related to the student's career goals for the program. Students are expected to submit their project design proposal and reader candidates as part of the Project Design capstone course (EESC 6998) in the first year of their program. Students should plan to spend a minimum of one year on the research and writing of the capstone. Online students will work closely with an academic adviser to develop a project that can be completed remotely.

Field Opportunities

Students who did not take a field course in their undergraduate career and plan to apply for Professional Geologist licensure can take EESC 5704 *Geologic Field Methods* to fulfill the field component required by many states including Pennsylvania. This course must be taken in person to meet the requirements for state licensure and the instructor has adapted the course to a one week in person (daily field trips) model. For this model, online students will complete online exercises before traveling to Philadelphia where they will spend one week immersed in the course material. Upon returning home they will complete post-trip reports to complete the licensure requirements. In addition to this field course, several courses will have video taped field components and opportunities for students to do field work in their local area.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2023 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.