

SCIENTIFIC COMMUNICATION AND LEADERSHIP GRADUATE ACADEMIC CERTIFICATE

Code	Title	Hours
ENGL 5220	Communication for Science Professionals	3
EM 5130	Leading Technical Organizations	3
Select 2 of the following:		6
BUS 5510	Managing Scientific Projects	
BUS 5520	Management of Scientific Innovation	
INTR 5090	Introduction to Applied Data Science	
ORGS 5410	Human Relations in the Workplace	
Total Hours		12

Courses to total 12 credits for this certificate.

- Students will be able to describe, classify, and understand the concepts of data, data science, big data, datafication, data ethics, and the data science process.
- Students will be able to find, clean, transform, and analyze data using RStudio and Tidyverse functions.
- Understand key ideas around managing yourself, including leadership assessments, leadership frameworks, and best practices to consider.
- Examine concepts associated with leading teams with a focus on specific topics such as decision making, managing conflict, motivation.
- Explore the elements of becoming a leader of leaders within an organization and understand how your focus changes with higher level positions within an organization
- Students will refine their professional communication skills, preparing them to communicate effectively about science, technology, and policy topics with diverse and geographically dispersed audiences.
- Students will draw from research in science communication, mass media, psychology, and other fields, to specifically focuses on developing students to expand their ability to develop strategic messages for delivery in a wide range of contemporary contexts.
- Students will be able to implement an exploratory data analysis that (1) wrangles data, (2) cleans data, (3) visualizes data, and (4) summarize data.
- Student will understand and utilize predictive analytics techniques.
- Students will learn theoretical foundations, practical skills, and tools to define, organize, plan, monitor, and control a project to ensure effective execution.
- Students will analyze and interpret basic financial statements and understand how a given project impacts these statements.
- Students will learn theoretical foundations, practical skills, and tools to critically analyze and assess how organizational processes, policies, structure, and culture contribute to or impede organizational change and innovation.
- Students will understand the components of an organization's business model and be able to critically assess and design mutually reinforcing mechanisms between the business model and scientific innovation.