

CURRICULUM DEVELOPMENT AND TEACHING OPPORTUNITIES



CERTIFICATE IN DATA ANALYTICS

The University of Washington is proud to be one of the nation's premier educational and research institutions. UW Professional & Continuing Education, delivered by Continuum College (UWC²), offers certificate programs and degrees to working professionals in the evenings, weekends and online.

UWC² has a range of outstanding opportunities for instruction and curriculum development for the three courses within the:

CERTIFICATE IN DATA ANALYTICS: TECHNIQUES FOR DECISION MAKING

The certificate program is designed for professionals who have completed at least one college-level statistics course and have basic SQL skills to access, join, view and model data. While the minimum requirement for students is two years of professional work experience, many have significant experience working with database systems, doing analysis or writing code.

In this program, students master the essentials of the data analysis process. They gain fluency in statistics, Excel, Power BI, Azure Machine Learning Studio and R programming and apply these tools using data from multiple sources to find insights, build dashboards and make predictions. Students graduate prepared to do data analytics at a departmental or functional application level.

FORMATS

This program is offered in the following formats:

- **Online, self-paced** – Students start any time and move through at their own pace with up to 4 months to complete each course. There are no class meetings or fixed deadlines.
- **Classroom** – Students attend class in downtown Seattle or Bellevue one night a week.

INSTRUCTIONAL ROLES

There are two types of roles available. All roles are part-time and designed to accommodate professionals who work during business hours. Please contact program manager for openings.

- **Course Instructor** – Share and grow your skills by teaching a set curriculum in any one of four formats described above.
- **Instructional Assistant** – Develop your knowledge and experience by serving as an instructional assistant to coach and teach students online or in the classroom.

COURSE TOPICS

Course 1: Data Analysis Essentials

Topics
<ul style="list-style-type: none">• Data analysis processes to select, wrangle and explore data and draw conclusions• Key practices for turning business questions into addressable data analysis questions• Programming syntax and practices to acquire, wrangle, visualize and analyze data• Core statistical methods and measures for analysis• Basics of drawing conclusions, predicting outcomes and classifying data
How Course is Taught
<ul style="list-style-type: none">• Use advanced features of Microsoft Excel, Jupyter Notebooks and R programming with latest packages• Import and wrangle data using SQL& R programming• Visualize and analyze data with R programming• Test hypothesis and use inferential statistics• Create basic machine learning regression and classification models using R programming

Course 2: Data Visualization Essentials

Topics
<ul style="list-style-type: none">• Data preparation processes and techniques for visualization• Methods of visual discovery, pattern recognition, and analysis for large data sets• User adoption and design-thinking principles for effective visual design• Visual storytelling practices using charts and infographics• How to create dashboards and scorecards to power ongoing organizational effectiveness
How Course is Taught
<ul style="list-style-type: none">• Use advanced analytical features and add-ins of Microsoft Excel and Power BI to create data visualization and infographics• Write basic code and statistical functions using R Programming to wrangle and visually explore data• Build dashboards with supporting data model using SQL, R and Power BI for final project

Course 3: Data Mining & Predictive Analytics Essentials

Topics
<ul style="list-style-type: none">• Essential data mining and machine learning concepts• Methods of regression, cluster and decision tree analysis• Unsupervised and supervised learning models

- Intermediate R program skills utilizing latest packages and features

How Course is Taught

- Use Microsoft Azure Machine Learning Studio to do predictive analytics using machine learning models
- Write R and SQL code to complete data mining and predictive analytics projects

SKILLS AND EXPERIENCE REQUIRED

- 3 or more years of experience with the tools and languages listed in the respective course descriptions applied to data analytics that have made an impact on an organization
- Demonstrated knowledge and skill in statistical analysis (through education and/or profession)
- For course 2, additional subject matter expertise in data visualization required
- For course 3, additional machine learning and data mining expertise required
- Undergraduate degree required, advance degree preferred, in a relevant field
- Teaching experience desired
- Legal authorization to work and receive compensation in the United States

Note: Instructional Assistants do not need as many years of experience as indicated above.

APPLY

Interested applicants should send a resume or LinkedIn profile and letter of interest describing relevant experience, preferred course and role to the Program Manager, Lalitha Subramanian, lalithas@uw.edu.



The University of Washington is a leader in [environmental stewardship & sustainability](#), and committed to becoming climate neutral.

[The University of Washington is an equal opportunity, affirmative action employer.](#) To request disability accommodation in the application process, contact the Disability Services Office at 206-543-6450 / 206-543-6452 (tty) or dso@uw.edu.