CERTIFICATION IN THE PRACTICE OF DATA ANALYTICS

Data Analytics is a burgeoning field due to the exponential growth of information created with today's sophisticated technologies. The Certification in Practice of Data Analytics (CPDA) offers working professionals the opportunity to acquire the knowledge and skills that support the management and use of big data. If you want to embark on this exciting career path or enhance the path you’re on, the CPDA is for you.

Upon successful completion of the four-course certificate program, you will be able to:

• Collect, clean, model and report data as well as build data products
• Analyze data to support informed data driven decisions

ADVANTAGES OF THIS DATA ANALYTICS PROGRAM

Busy professionals find this program meets their professional goals while providing a flexible learning experience. As a student in the program, you’ll enjoy:

• A 100% distance learning format
• Being taught by top faculty from The Ohio State University’s College of Engineering and Department of Statistics
• Courses that focus on the most important and marketable components of data analytics
• The option to take standalone courses for targeted learning or take all four courses to earn the certification
• Certification can be achieved in less than one year or longer if necessary

WHAT YOU CAN EXPECT

The online delivery of the courses is composed of:

• Instructional material equivalent to approximately one semester credit hour
• Approximately 40 hours of course work including 12-13 hours of online instruction
• Course duration of approximately seven weeks. See course pages on the website for exact dates.

COURSES

Foundations of Statistics

Introduction to statistics includes a short discussion of where data comes from, data exploration, probability and random variables, the basics of statistical inference (e.g., sampling and inferring upon population parameters using statistics), testing statistical hypotheses and building confidence intervals, and an introduction to regression. Students will use the R software package in this course.

Data Mining

This course is an introduction to data mining fundamentals and algorithms. Students will develop an appreciation for data preparation and transformation, an understanding of the data requirements for the various algorithms and learn when it is appropriate to use which algorithm. Specific topics also include distance/similarity measurement, anomaly detection, and association, classification, clustering and pattern algorithms.

Machine Learning and Optimization

This course will develop a solid background for understanding the theory of machine learning and applying it in a real-world setting. The topics covered during the course include the history of machine learning, supervised and unsupervised learning methods, linear and logistic regression, classification problems, support vector machines (SVM), neural network, and deep learning.

Visual Analytics and Sensemaking

This course covers the information visualization techniques that help people analyze massive amounts of digital data to combat overload and aid sensemaking with applications in retail and financial decision making, logistics, information systems, manufacturing, health care, energy and smart grids, cybersecurity and social networks.
COURSE SEQUENCE AND SUGGESTED PREREQUISITES

The courses can be taken individually for specific interests, or students can pursue the full certification. The courses can be taken in any sequence, although it is strongly recommended that people without experience or prior education in college-level algebra take the Foundations of Statistics first. Data Mining is the next course in the sequence, and Machine Learning or Visualization Analytics and Sensemaking can follow in any order. Course prerequisites are noted on the course information pages.

PRICING

An early bird price of $675 per course is offered when you register approximately three weeks prior to the course start date.

REGISTER

To register, visit: go.osu.edu/dataanalyticscertificate

ABOUT OHIO STATE’S PROFESSIONAL PROGRAMS

The College of Engineering’s Professional and Distance Education Programs Office (PDEP) provides learning opportunities from innovative leaders in engineering and architecture education. Through professional education, adult learners can engage with world-class faculty to increase their knowledge, expand upon their expertise and build their careers. The PDEP offers professional master’s degrees, certificate programs and other courses in distance learning format to meet the needs of busy working professionals. Certain programs provide students with the opportunity to customize their course of study, enabling them to better meet their professional goals. Other inperson short courses held on the Ohio State campus provide professionals with certification and/or continuing education units.

CONTACT

Professional and Distance Education Programs Office (PDEP)
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2017 - 2018 SCHEDULE OF CLASSES

August 22, 2017 - October 10, 2017
• Foundations of Statistics
• Machine Learning

October 16, 2017 - December 4, 2017
• Data Mining
• Visual Analytics for Sensemaking

January 8, 2018 - February 23, 2018
• Foundations of Statistics
• Machine Learning

February 28, 2018 - April 17, 2018
• Data Mining
• Visual Analytics for Sensemaking