



Data Analytics Certificate Program

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The Course Curriculum



Financing Your Education



About The Data Analytics Certificate Program



DESIGNED TO FIT A WORK SCHEDULE

Classes meet three times per week from 6:30PM - 9:30PM. All classes will be held 100% online.

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TAUGHT BY INDUSTRY INSTRUCTORS

Learn from instructors who are data scientists, analysts and managers. They'll not only teach you the fundamentals, but the updates, tips, & tricks they use daily.



LEARN BY DOING

Apply the new concepts and skills you learn in practical exercises, ongoing activities, and real-world projects.



ADVANCE YOUR CAREER

Take the next step on your unique professional journey by learning the essential professional skills to build the career you want.



PROFESSIONAL ACCELERATION PROGRAMS 12 WEEKS CAREER COACHING AND MENTORING SUPPORT*

Our career mentors will guide you in your career growth and job search, and help you connect with the right people and companies along the way

*12 weeks of career support available for Full 20 week Certificate Course only

R

- Python
- RStudio
- SQL & MySQL
- Jupyter Notebooks
- APIs
- Data Cleaning
- Tableau
- Advanced Excel
- **Google Sheets**
- Data Visualization
- Data-Driven Presentations •
- Forecasting
- Statistical Modeling
- Machine Learning
- **Programming Basics**
- Databases
 - **Business Intelligence**

Use statistical analysis to model & forecast trends

Make the wrangling of intimidatingly large datasets surprisingly easy with R

Interact with APIs to pull data from online sources

Build and interact with databases, manipulating and returning information

Communicate effectively under pressure

- Write R and Python scripts to crunch data and develop advanced models
- Tell data stories with beautiful graphs, charts, and tables with a variety of programming languages & visualizations
- Use real-world data to analyze and explain healthcare, economic, financial, or social happenings

Create innovative solutions on diverse teams

Understand the fundamental statistical principles powering the algorithms secretly all around us



Relevant Skills For

- Data Analysts
- Business Analysts
- Junior Data Scientists
- Technical Project Managers
- Executives, Managers, & Entrepreneurs
- Engineers & Web Developers

- Database Managers
- Information Systems Consultants
- Operations Research Analysts
- Scientists & Researchers
- Project Managers



LOIS DANKWA, WINTER 2020

- Previous career: Quality Assurance at BNY Mellon
- Now: Analyst at MentorWorks Education Capital



To be able to learn these skills and do a meaningful project in such a short period of time was amazing. The Industry Project, as a team project, gave me a glimpse as to how project teams could look in the future in terms of how to collaborate on a data analytics project.

Course Options

If you're interested in learning to do complex data analysis or data science, or simply want to work more effectively with technical counterparts, this program is for you. We guide those with little or no experience in the field and teach the skills companies look for in new Data Analysts, Business Analysts, Junior Data Scientists, Technical Project Managers, and more. Alternatively, this is a great immersion for those seeking to speak the language of engineers, analysts, and business leaders. **Select the course that's right for you.**

	Introductory Data Analytics for Business	Python for Data Analytics	Data Analytics & Data Science Certificate
	3 weeks	3 weeks	20 weeks (full course)
	2/14/22 - 3/2/22	3/7/21 - 3/23/22	2/14/22 - 6/29/22
	\$2000	\$2000	\$11,995
Advanced Excel	 ✓ 		1
Introductory Data Analytics for Business	 ✓ 		\$
Analytics & Data Science Career Paths	\checkmark		\checkmark
Limited Professional Acceleration Courses	 ✓ 	 Image: A second s	 ✓
Computer Programming Skills		s	\checkmark
Python for Data Analytics		✓	\checkmark
Data Visualizations in Python		<i>s</i>	\checkmark
Data-Driven Presentations		 Image: A second s	\checkmark
R & RStudio for Data Analytics & Data Science			 Image: A second s
Business Intelligence & Data Visualizations in Tableau			\checkmark
Databases with SQL			\checkmark
Machine Learning			\checkmark
Technical Interviewing			\checkmark
All Professional Acceleration Classes			✓
12 Weeks of Career Support			\checkmark
Capstone Project			\checkmark
Co-Op-Style Project			

Description

Getting Started with Data Analytics for Business

This module serves as an introduction to the tools, concepts, skills, and analytical techniques needed to step foot into the world of Data Analytics or Data Science. We will begin building the mindset of data-driven decision making and unlock the true powers of spreadsheet tools that only consummate professionals wield. You will leave with an understanding of the many career paths within Data Analytics and Data Science in many industries, a familiarity with the common industry terminology so you can talk the talk, and the ability to manipulate, sort, analyze, visualize, and tell stories with data using spreadsheet tools, so you can take your first steps to walk the walk of a Data Analyst.

Python Programming for Data Analytics

One of the most flexible and widely-used programming languages, Python allows us to rapidly process large datasets, perform cutting-edge analysis, and generate compelling, interactive visualizations. This course will cover the basic principles of programming in Python, sorting & cleaning your data, analyzing data with key statistical methods, visualizing data, and even developing predictive data models. Through individualized coaching and group feedback, you'll be able to move your own data project through four stages: Hypothesis, Organization, Analysis, and Visualization & Communication.

R & RStudio for Data Analytics & Data Science

R is a powerful and popular statistical programming language, used by businesses, schools, healthcare systems, and researchers around the world that can be used to clean, manipulate, and model data. And underpinning your mastery of tools like R and Python is a strong understanding of probability and statistics and how to apply them, as well as a fundamental understanding of the basics of computer programming. You will learn and apply these concepts while building experience using R and RStudio. Using advanced functions in R, you will clean, explore, manipulate, analyze, and visualize data to draw out and explain insights from real world datasets.

Topics

- Analytics with advanced Excel & Google Sheets for professionals
- Working with large datasets
- Filtering, Pivot Tables, Aggregation, Lookups, Conditional Formatting
- Data-driven decision making
- Telling stories with data
- Introductory data visualizations
- Career paths in analytics and data science
- Python syntax & data structures
- Fundamentals of programming
- Data modeling
- Visualizing data with Matplotlib and plotly
- Data-driven presentations & storytelling
- Data cleaning & nulls
- Jupyter Notebooks
- Functions, variables, and strings
- Loops & logic statements
- Packages and libraries
- Test data vs train data
- RESTful APIs
- Importing libraries & reading data in R
- Statistical tests & analysis in R
- Probability, statistics, & Linear Regression
- Data Structures, Functions, & control flow
- R Data Frame Essentials: subsetting, cbind, rbind
- Advanced R: merge, apply, and more
- Advanced Libraries: tibble, dplyr and more
- Plotting libraries; ggplot

Description

Business Intelligence & Data Visualizations

The most successful data analytics & data science professionals understand the business side of the problem just as well as the technical side. Here you will explore data strategy concepts to identify the right datasets needed to support business goals, and employ data driven strategic problem solving techniques to communicate insights that empower decision makers. You will also learn to tell compelling stories with data visualizations using the most popular tools, like Tableau, excel, and R, to make your case and help others understand the insights you've derived.

Databases & SQL

Full Course

Software and the models described above are commonly backed by complex data sets, stored & made accessible in various types of databases. Understanding database design will allow you to tame the complexity as you build more advanced data solutions reliant on larger data sets. We will focus on using SQL, or Structured Query Language, the most widely used database language and toolkit, so you can store and access the data you need.

Machine Learning & Data Science in R

Netflix, Amazon, your bank's fraud detection, image recognition tools, and so much more are all powered by well designed data models and by machine learning. You must master the basics of how these technologies work and apply some of the many existing models to your own datasets. You will learn to apply these advanced concepts for forecasting, predictive & time series modeling, clustering, and more.

Beating the Technical Interview

As you complete our most advanced Data Science & Analytics modules, you will also learn how to convey your expertise & navigate the challenges of technical interviews to help you find your place in the field.

Completing Your Capstone

After months of honing your skills and building projects along the way, you will finish your project to deliver a substantial insight & present a business case using real world data, keeping in mind the best practices you've learned throughout, adding another real-world project to your portfolio.

Topics

- Choosing the right visualization
- Advanced graphing & charts in Excel & R
- Tableau: loading data, generating & manipulating visualizations
- Color, design, & storytelling
- Identifying the right KPIs
- Snapshots, trends, & real-time data
- Data insight communication
- Business case study
- Visualizations for Business Intelligence
- Database architecture & data management
- Data acquisition using SQL
- Joins, entity relationships, NULL handling
- Writing efficient queries
- Complex queries and testing
- Analytical Databases
- Model inputs & outputs
- Feature engineering
- Applied machine learning models: Linear & logistic regression, K-means clustering, & more
- Key model metrics
- Predictive & Prescriptive Modeling
- Forecasting
- Navigating technical interviews
- Roleplay practice solving common interview challenges
- Apply the key tools & techniques to a real world data set, especially focused on healthcare an insurance, and present your business case to complete your capstone project
- Complete your company project

Professional Acceleration Program: Throughout this program, you will be introduced to the social, emotional, and professional skills that companies look for in top performers, and will help you succeed throughout your career. These will be critical as you practice, hone, and showcase your abilities in your Company Project, where you'll apply both your technical skills and your ability to collaborate on diverse teams in real-world situations.

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FULL TUITION

Pay full tuition at the start of the program and receive \$250 off





INCOME SHARE

Make flexible payments once you're above a minimum income





Pay tuition in 4 payments during the bootcamp with no interest \$1899-2375 Per month

INSTALLMENT PLAN



STUDENT LOAN

Choose when you start paying and how much based on your credit history and finances

\$150-250 Per month

*Financing and Payment Plans available for Full 20 week Certificate Course only

About Stack Education & University of Vermont Professional and Continuing Education

Stack Education empowers colleges & universities to offer industry-driven, industry-taught courses, helping students of all ages learn the skills and earn the experience they need for the modern economy. Our programming is unique as we use local industry experts to teach our classes and provide an industry project in partnership with a local business. Our proprietary Professional Acceleration Program curriculum (PACC) envelops our program and gives students the necessary capabilities and skills required to thrive in business and in life. Stack Education is headquartered in Boston, MA.

Every year we help thousands of non-traditional students continue their education at the University of Vermont. Through collaborations with UVM's various colleges and schools, we offer courses and programs to help you explore your options. Whether you're planning a career change, looking for personal enrichment or professional development, or preparing for an undergraduate or advanced degree.