Welcome to the incredibly exciting field of business data analytics.

I've worked in this industry for 20 years and I've never been bored and you won't be either. The next 20 years will be even more exciting as the true potential of a single, global, big data analytic culture is realized.

I'm a neuroscientist who studies big data in the brain. I work with all kinds of data sets. Now I'm applying statistical techniques and the problem solving techniques we discovered in the brain to business. And it's been really fun for me because it turns out that many of the analytical challenges we have in science are now the same analytical challenges we have in business, thanks to the big data ecosystem. The same skills that we used for getting a paper published in science are the same skills we use for presenting something to an executive. It's all about critical thinking, data wrangling, and communication.

I've created new data analytics technologies as an inventor and an entrepreneur. And I've helped others realize their dreams in business analytics as a venture capitalist. And for the past six years, as a teacher in Duke's globally known Master of Engineering Management program. Our focus here is practical, how to help you harness data to create positive change.

Big data in the business world is just shorthand for the idea that everything we used to write down, thing like product invoices, doctors prescriptions, are now electronic and stored in a computer. That means they can be searched, explored, analyzed, and, perhaps, exploited.

The cost of storage for electronic data has become so low that there is no money to be saved throwing it away. Most of this data will not prove useful but clever people will spend the next 20 years finding new ways to use portions of it to create economically valuable products and services. Or to extract a temporary or lasting informational edge, a meaningful competitive advantage for the products and services they already sell. No commercial for-profit company that is in a competitive market can remain profitable or even survive over the next five years without incorporating best practices for business data analytics into their operations.

Making efficient use of all this big data requires understanding the full life cycle of a data problem. This life cycle includes assembling the data, cleaning it, analyzing it, and communicating to people what it means. The world needs people who can not only navigate this entire cycle but also integrate and translate the language, all the people who contribute to it, from programmers to statisticians to communications specialists to business domain experts. Such people have been called unicorns believe it or not by the popular press and that's because it seems hard to imagine that all these skills could possibly be mastered by one person.

Well, we are here to tell you that all of these skills can be mastered by one person. And this specialization is designed to help you to take your first steps toward becoming your own personal big data unicorn. By the time you tackle the capstone project, you will know fundamental business concepts and problem solving skills to help you navigate the big data ecosystem, as well as the most important tools for business analytics. Including data modeling in Excel, understanding and communicating data using Tableau, and assembling data using SQL.

Some of you may already know some of this material, but we are interested in bridging the gap and helping you all to become translators. We want to help business people with no technical background get comfortable with data. And we want to help people with prior technical background get comfortable asking the best types of business questions.

We both believe that big data analytics is one of the most rewarding fields you can be in no matter what your technical background. The most exciting developments lie in the future. Thank you for embarking on this journey with us.

The Coursera Specialization: [Excel to MySQL: Analytic Techniques for Business](https://eventing.coursera.org/api/redirectStrict/km8MJ_9pJ4k8w521xNZ0JgPwasF5GCjvWjaaLMLoN0h6k6i1-0CdklJDNd-6XCRXbvmBXGMUIR1kkycq88rXnQ.c8RzcZFbn5CEGWwAbqSigw.Xg3rsaI7IVC-adXuOo4AMhpS_VCEcdR9NAMAtClLySvpSngKAiDXTfTD-i0wBmnx1gyoZyBixcQXKiOIFlUIPwaDXgZwOxGuDaeVdejB6sjei1YItbSMeSihdmHRiwNNwY_QOKz9Z4MQvix3OyYTubDCJ2-CuRbZN47XHAHju_7tsSYWSCtbbbs6TKe5JioxkdO27Md3wacztoXhv9lLgc-ytjSSnXW3q6gqXlNALeQKQYGl16_9Zf6FBk4jT0iYM5ARtuWRr1qI6b5ZLDQ9jyNmXos_WiGaV_rGc1k-aADC_OcLTFPpySblXa0T4H9Lb-0BqqkxUMmR8o_wY6fs4Qc5z0RowtvrZfOfMX4Z5EA) is about how “Big Data” interacts with business, and how to use data analytics to create value for businesses. The specialization consists of four courses and a capstone project. You will learn to perform sophisticated data-analysis functions using powerful software tools such as Microsoft Excel, Tableau, and MySQL.

Great business analysts have been called the “unicorns” of the business world. They are supposed to deeply understand business concepts, wield powerful quantitative skills, execute exceptional critical and structured thinking, and persuasively communicate complicated concepts using exciting visualizations and non-technical knowledge. How is it possible for one person to even know what all these things mean, let alone master them?

We’re here to tell you it *is* possible. By the end of this specialization, you will be able to:

1. Understand and be able to identify relevant business metrics (Course 1: Business Metrics for Data-Driven Companies)
2. Be an expert in using Excel to do business data analysis (Course 2: Mastering Data Analysis in Excel)
3. Be a Tableau power-user who can produce compelling dynamic data visualizations, and an experienced presenter of persuasive business proposals (Course 3: Data Visualization and Communication with Tableau)
4. Be a specialist in using Structured Query Language, or SQL, to retrieve and analyze big data from industrial-sized relational databases (Course 4: Managing Big Data with MySQL)

In the specialization final project: Excel to MySQL: Analytics Techniques for Business Capstone, you will combine all these skills together to address a realistic business analytics project. In short, you will be your own personalized version of a business analyst unicorn!

Question. What will you be able to do after you complete this course? Business metrics for data driven companies. At least four things.

With module two, you'll be able to distinguish the numbers that are vital to the health and success of a business. Business metrics from the flood of other, less useful data that surrounds every business. You'll be able to classify any business metric. First, you'll be able to distinguish which of the three main categories of business data a metric falls into. Revenue, profitability or risk. And you will be able to distinguish traditional metrics from what we call here dynamic metrics. Metrics often quite new that offer the greatest potential to lead the innovation through rapid business process improvement. With module three, you'll be able to anticipate what types of data centric employees are needed in different types of businesses. The typical job titles and skill requirements you will find in each type of company, as well as how employees in different roles typically interact with one another. In particular, you'll hear directly from business analysts, business data analysts, data scientists, and senior software engineers involved in data related work.

We'll classify all companies into five categories, and consider how each category is responding to the impact of big data. You'll even be able to score your own company, or any other company, individually on a 20 item checklist to determine how well it is embracing big data analytic culture. After module four, you'll be able to identify what are currently corporate best practices in analyzing business metrics. You'll learn some simple but powerful formulas to extract maximum value from those metrics. We'll look at a critically important horizontal business area, web-based marketing, which is relevant to almost every company in the business world. And we'll explore a representative vertical market, financial services related to investing and portfolio management, so that you can get familiar with how a group of metrics work together to define a market sector. The overall goal of our business analytic specialization is to prepare you for success if you choose to work as a business analyst or business data analyst, or if you plan to embark on a career path that leads to becoming a data scientist, or simply wish to be effective in your current role as data plays an ever more central role in business processes. Whatever your role, learning how to work productively as business analysts or business data analysts is highly useful in our opinion.

The world appears to be flooded with an ocean of data, much of it not so useful. After you've taken this course, you will be able to find the treasure in that ocean to identify and utilize the key metrics that allow data driven companies to thrive.

**Course Objectives:**For this course, you will learn best practices for how to use data analytics to make any company more competitive and more profitable. This course provides learners with the knowledge and tools to successfully make recommendations to employers about how data analysis could help their business situation. You will learn to:

1. Recognize the most critical business metrics and distinguish them from mere data;
2. Analyze the different roles Business Analysts, Business Data Analysts, and Data Scientists play in various types of companies;
3. Describe the skills required to be hired for, and succeed at, these high-demand jobs; and
4. Define the different data-related roles needed in a company in order to implement and make use of data analysis.

Finally, you will be able to score any company on how effectively it embraces Big Data Culture. Digital companies like Amazon, Uber, and Airbnb are transforming entire industries through their creative use of Big Data. You’ll understand why these companies are so disruptive and how they use data-analytics techniques to out-compete traditional companies.

**Course Logistics:**To achieve a comprehensive understanding of the material presented in this course, it is recommended that participants work through the material sequentially. After you work through the introductory material, you should begin the course content material starting with "Introducing Business Metrics."

**Video Lectures:**It is recommended participants view the videos sequentially in order to achieve an understanding of the content for each module. Each video has the option to display a computer-generated transcript (this option is available below the video). To view the transcript, click the icon located to the lower right of the video. Note that some material on the slides might be blocked due to the transcript display. You can either turn off the transcript display when this occurs, or you can print the transcripts and follow along on paper. There are two format types you can download and they are WebVTT and .txt extension files. If there is a problem with, or a question about a particular video, please post your concern to the discussion forum that is located directed below the specific video.

**Discussions:**Building community is an important component of the learning experience.[Discussions](https://eventing.coursera.org/api/redirectStrict/-JOHcz4ZxIQJVcRzH8Uhq_5uqdURdtn8eH57DSzPopVUaS-PLaMgjmE2xuReizpS_dGDHfuCqqDf8FiAj6c5Ew._h4uVVp7WMUJDCLTuEpIBQ.hWD19k4tXi9Xwh5sIWUdVbMe1h94E3Q-hSBtkrKaBsEBCFwEjQocmLYtI4ylQ2ebPavIAeXBC_4UEM8pwLgEbnHwgDBbttIYUWc-nPrE2VY0M49osWWbXhi_BImJ_GX2Kmr0Qetm9wBfaUFKrq_9BMCF89A5bam1kotROL3jX1XNV-9TBXGo_IXEyYqlE_dQ9eXvZo-YGeY35nu4QVso82-e9aiMurX6Kl_MTX1rW0NFybqCEYBb3veGUOOMhfstG_EFN6IgrcKg9MQECQoZSItI05r-kdoHm-kOSEzxNpXe8a8v6Md9GjrkbEaopOMoGBy7JLwz6TgMOXX5qK2jKKxAUHCeOzABDwEX5-fh7AowX5oWINd0EFF0Gd83cAvm13_WJqDPbWUGCHi-1gV52XUEm8KguErsRvqPkrJ4vXlrQte302b3eQR8Z0e4ehT0QgQXLxSwulL4JKlbdYI1gC6_WXXYPqqgX8gAW4YUODY)provide an opportunity to engage in discussions with other learners. There are discussion forums below each video lecture, and additional topic-specific discussion forums are located under the Discussions tab. If there is a problem or question that doesn’t refer to a specific video, please post it to the [General Discussion](https://eventing.coursera.org/api/redirectStrict/e8drM2dJ8KTz9wKLC_yu5zjQzLytPIAR-9d3hy1tVFJ69vW1Bo41P1kNtvShlJsSEyGC-xF93qXQoQZFTNhtbA.0JqBwXESHyVxDjNeRjyVvA.YkhYCsi4SqBi50FU3Mn6DMJQFn50cqD0TH4X7TYJvQN69fI5ZcQqjf6JGMaHRjfqRJLec27D8Hjl9HbaXMW9MwdszggJNcH-mxLMmFSigcnCmOjJ28aWzvvNLGUPuogdkc0lXJUZEkbTl_GI77AEO1cSl1JgVtB4A-KD0WflDJdIjmfrHv9WY70dEWiRw7WmzmEaMZ7i0go3wXCimgDym-03BoKedWCWPo82dSCTYtIC2JV0ik5_vwwvbF_N-ZEp4JhKd6d2ow0p89qc4bJR0WTc5WjpOGbB3G1RshLIzk676JPFHwFOdCwi53WB3rD5tAo_OnC3nG-ZHzBPP2y0h1mlFbWyhTPjayA_MntLVP7k3XlHegs6xe3iWwZtH7rOTPChbRKnISwF1BsmGJa4OM5NJcPu8tGl1_BXp7TuSo_7Z51C2hDKtCu8RpjSsy5vZCAdFFPPGtmyZFFe58YJCwBtc2IjhcNVXd4zoHZ_jI33stcDSiuhm6Kkbu7XiCVbcM3epsUk7tAUXdRJMzmBYRGL1Co07GIo0LpZ8xz9exqqfgIrl2q4R5Va2BdQJmRn) forum.

**Quizzes:** At the end of each week's session, there is a graded quiz with multiple-choice and true/false questions. Participants have an unlimited number of quiz attempts, but may only retake a quiz 3 times in an 8-hour time frame. A score of**80% or higher** is required to pass each quiz. Additionally, there are in-video quizzes where learners will be asked to answer different questions during the video lecture. The in-video quizzes are not scored; they are embedded questions to help you understand the content presented in the video lectures.

**Supplemental Material:**This course provides learners with supplemental materials to help with overall comprehension of the course content. You'll find links to external websites mentioned in video lectures, as well as links to two different Excel documents you can view for further comprehension and understanding. The course also includes a comprehensive glossary that defines key words and phrases mentioned throughout the course. The [glossary](https://eventing.coursera.org/api/redirectStrict/cHnB-Jldw3XPtzFB3hhAfhrlAF-4tJPWeYNCLgPkqYKKxjgpCYtmq3N9B1KKWs5UNLR25lk-_upXmq2bO-vtPg.2YVk8uAFoVfo3BHOwGjnWg.8lXQcLHcGcJP7rGBP6yojzNAuRhiPdvP82jJ1RFzvckCRPiw9HIrFBqvhAVAFyyb_ttDWxMNiyJN-EOBRzPptKjQnXQOU6HxoqqNsWRDmrcuSGEjLyYrznRO7yubVJvZUC7rm4lFLHKNDQOwzC9rF__W2MNok4_Eitkvjs3cQ4JkIw1bVahYWtGWRwYe72PQ8ax5r02mLL2MFCQvp7a_KgTolq4z8KTvs9UIE1zHxtLMiohC7vVa8zdDMb4dptx_WXWek1t2Lo4vaN6fXF0Tg4ymIrTxiwo1GmQpREp-NY85fsDnj7j8O1XgO5daYA9Pa7EykFVXJaW1VcGWEpzqX4IsMPiu_BFS1nD1izgdgh7UMrapNjdCXcOGuq-fWPOUsmfpBeKwKat97qzhY6f7dLOXcrrcVJ63c6jsl7p_q_gF-iSpV1T_snd8wZXz1DbactMsnncKUN2hvH0vf9SezQ) is located in the section, "Introduction to Course One: Business Metrics for Data-Driven Companies."

**Peer Evaluation/Final Project:**This course includes a final project, based on a fictitious case study. Learners will identify business metrics in the case study, describe those metrics, and propose a business process change that could be supported by the metric chosen. Additionally, learners will evaluate responses from their peers and will be asked to review a total of three responses using the established rubric. Further details on the peer evaluation/final project can be found in week four.