

MSBA Optional Resources (updated 04-10-2022)

This is **NOT** required or pre-requisite knowledge. However, many admitted students ask us if there are any topics or materials they could review prior to the start of the program. Resources below are intended as examples and most topics have several viable alternatives. They can be a great way to introduce you to business analytics, data science, and programming – or act as refresher to hit the ground running once the program starts. Many incoming students will already have adequate experience with some or all of the topics covered below. We expect you to “pick and choose”, or skip altogether, depending on your personal background!

Note related to examples listed below:

There are many other good resources when it comes to programming, and broader data science, including but not limited to [Coursera](#), [Udemy](#), [EdX](#), [CodeAcademy](#).

Several of our instructors use [DataCamp](#) as part of assignment and practice for their classes during the MSBA program. We like Datacamp but to avoid overlap it has been omitted from the list below.

The resources below are optional and run by third-party providers. Subjects and offerings may change at any time. Hence we will NOT be able to provide additional help with access or related questions.

1. Programming from scratch (with python)

Recommended if you never, or hardly ever coded before, OR if it has been a while and you could use a refresher. A fair share of the concepts covered here may also be reviewed in the summer, but repetition and practice are important.

- Coursera: [Crash Course on Python](#)
- Coursera: [Programming for Everybody](#), and [Python Data Structures](#)
- EdX: [Programming for Everybody](#) (same as above, but via EdX platform)
- For a deeper but longer course, EdX: [Intro to CS and Programming using Python](#)

Many other decent resources are available on Coursera, EdX, Udemy, CodeAcademy and more.

2. Databases and SQL – SQL is still omnipresent when it comes to managing and manipulating data in databases. *Consider this resource if you haven't used SQL or worked with databases before, or if it has been a while.*

- Coursera: [SQL for Data Science](#)
- Coursera: [Databases and SQL for Data Science with Python](#)
- CodeAcademy: [Learn SQL](#) and

3. Introductory statistics – do you fear statistics and worry the pre-program bootcamp may not be enough or too fast for you? Here are a few resources to get a head start and/or extra practice:

- Coursera: [Data Science Fundamentals with python and SQL](#)
- Coursera: (a bit more advanced): [Introduction to Statistics](#)

4. Business aspects of analytics and data science – random selection, recommended if you are new to business analytics and have little prior knowledge of how data analytics and data science can be

employed to support business decisions, create value for businesses, and how to make it work in real-life.

- Slightly older, but crisp and very concise introduction to big data and analytics:
<https://hbr.org/video/3633937151001/the-explainer-big-data-and-analytics>
- Leveraging data (and analytics) in business: free E-Book with quick examples
<https://www.bernardmarr.com/img/Beyond%20the%20Big%20Data%20Buzz.pdf>
- A crash course to data science (not too technical, ~4hours):
<https://www.coursera.org/learn/data-science-course/home/welcome>
- “Me, myself, and AI”: Freely available podcasts by MIT and BCG. Hear from Senior executives around AI in business:
<https://sloanreview.mit.edu/audio-series/me-myself-and-ai/>
(doubles up as English practice, become fluent in business AI terminology)

5. **Excel (spreadsheets)** - *Not a big Excel user or need a refresher? For most business-oriented positions, Excel remains important if not critical. Here are a few resources:*
- Coursera: [Excel skills for business specialization](#)
 - Dave on Data: [YouTube Series on using Excel for data analysis and data mining](#)

Already familiar or “pro” with all of the introductory concepts above?

- Follow Steve Nouri on LinkedIn, and check out his recent [“40 days of AI” posts](#).
(ongoing as of June 2021 – but again this is NOT needed and only mentioned in case all of the above seems boring and easy, you want to push yourself, and do not know what else to do 😊)

And a few reference books worth reading:

- [Analytics at Work](#) (Davenport, Harris and Morison; Harvard Business Press)
- [Competing in the Age of AI](#): Strategy and Leadership when Algorithms and Networks Run the World (Iansiti and Lakhani; Harvard Business Press)
- [The Digital Matrix](#): New Rules for Business Transformation Through Technology (Venkatraman; LifeTree)
- [Data Science for Business](#) (Provost and Fawcett; O'Reilly)
- [Practical Statistics for Data Scientists](#) (Bruce and Bruce; O'Reilly)
- [Storytelling with Data](#): A Data Visualization Guide for Business Professionals (Nussbaumer Knaflic; Wiley)
- [Machine Learning Yearning](#) (Ng; Free Book Draft available from GitHub)