

MIS548 Course Schedule¹

Week	Topic(s)	Materials (Required)	Materials (Optional)	Assignments
1	<ul style="list-style-type: none"> Course Overview Data Wrangling Basics 	<ul style="list-style-type: none"> Video - Course Intro [20 mins] Video - Week Overview [5 mins] Video - GitHub [7 mins] DataCamp Course - Introduction to Data (Chapter 1) [30 mins] 	<ul style="list-style-type: none"> DataCamp Course - Introduction to Python (Chapters 1-3) [3 hrs] ² Article - Installing Anaconda 	<ul style="list-style-type: none"> Installing Python on your PC Installing GitHub Desktop on your PC DataCamp Assessment - Python Programming [10 mins] Online Discussion Participation
2	<ul style="list-style-type: none"> Big Data in Business (1) NumPy: Python library for multidimensional data analysis 	<ul style="list-style-type: none"> Video - Week Overview [5 mins] Video - NumPy Introduction [16 mins] Article - Big Data: The Management Revolution DataCamp Course - Introduction to Python (Chapter 4) [1 hr] 	<ul style="list-style-type: none"> Tutorial - 100 NumPy Exercises 1-50 [30 mins] DataCamp Practice - Introduction to NumPy [20 mins] 	<ul style="list-style-type: none"> Online Discussion Participation
3	<ul style="list-style-type: none"> Big Data in Business (2) Tabular Data Wrangling in Python 	<ul style="list-style-type: none"> Video - Week Overview [5 mins] Article - Big Data, Analytics, and the Path from Insights to Value Video - Jupyter Notebook Tutorial [9 mins] Video - File Handling in Python [12 mins] 	<ul style="list-style-type: none"> Article - The Data Deluge Article - Data, Data Everywhere Article - All Too Much: Monstrous Amounts of Data Tutorial - 100 NumPy Exercises 51-100 [30 mins] 	<ul style="list-style-type: none"> Team Project Milestone Report Online Discussion Participation
4	<ul style="list-style-type: none"> Big Data in Business (3) Pandas: Python Data Analysis Library 	<ul style="list-style-type: none"> Video - Week Overview [5 mins] Article - How "Big Data" is Different DataCamp Course - Data Manipulation with Pandas (Chapters 1-2) [2 hrs] 	<ul style="list-style-type: none"> Video - Data Wrangling Practice [15 mins] Article - Making Advanced Analytics Work for You DataCamp Practice - Data Manipulation with Pandas [15 mins] 	<ul style="list-style-type: none"> DataCamp Assessment - Data Manipulation with Python [10 mins] Online Discussion Participation

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5	<ul style="list-style-type: none"> Data-related career in Business Analytics Pandas: Python Data Analysis Library 	<ul style="list-style-type: none"> Video - Week Overview [5 mins] Article - Data Engineer, Data Analyst, Data Scientist — What's the Difference? DataCamp Course - Data Manipulation with Pandas (Chapters 3-4) [2 hrs] 	<ul style="list-style-type: none"> Article - Data Scientist: The Sexiest Job of the 21st Century Article - Is Data Scientist Still the Sexiest Job of the 21st Century? Video - Reading in Files in Pandas Tutorial [19 mins] 	<ul style="list-style-type: none"> DataCamp Assessment - Importing & Cleaning Data with Python [10 mins] Online Discussion Participation
6	<ul style="list-style-type: none"> Current Issues in Big Data Data Ethics 	<ul style="list-style-type: none"> Video - Week Overview [5 mins] Article - Data Ethics: What it means and what it takes 	<ul style="list-style-type: none"> Book - Bit By Bit (Chapter 6: Ethics) Article - When it Comes to Gorillas, Google Photos Remain Blind Article - What the world can learn from the UK's A-level grading fiasco Video - How Cambridge Analytica Exploited the Facebook Data of Millions 	<ul style="list-style-type: none"> Team Project Final Submission Online Discussion Participation End-of-the-semester Reflection note

Notes

1. This is a tentative schedule and is subject to change.
2. Although optional, students who are not familiar with Python are strongly recommended to complete the DataCamp Course - Introduction to Python (Chapters 1-3). It will provide a solid foundation for Python programming, which will be used throughout the class.

References

1. Installation - Anaconda Documentation. <https://docs.anaconda.com/free/anaconda/install/index.html>
2. McAfee, A., Brynjolfsson, E., Davenport, T. H., Patil, D. J., & Barton, D. (2012). Big data: the management revolution. *Harvard business review*, 90(10), 60-68.
3. LaValle, S., Lesser, E., Shockley, R., Hopkins, M. S., & Kruschwitz, N. (2010). Big data, analytics and the path from insights to value. *MIT sloan management review*.
4. The Economist (2010). The Data Deluge.
5. The Economist (2010). Data, Data Everywhere.
6. The Economist (2010). All Too Much: Monstrous Amounts of Data

7. Davenport, T. H., Barth, P., & Bean, R. (2012). How 'big data' is different. MIT Sloan Management Review. https://www.hbs.edu/ris/PublicationFiles/SMR-How-Big-Data-Is-Different_782ad61f-8e5f-4b1e-b79f-83f33c903455.pdf
8. Barton, D. & Court, D. (2012). Making Advanced Analytics work for You. Harvard Business Review.
9. Lee, J. (2021). Data Engineer, Data Analyst, Data Scientist — What's the Difference? DataQuest. <https://www.dataquest.io/blog/data-analyst-data-scientist-data-engineer/>
10. Davenport, T. H. And Patil, DJ. (2012). Data Scientist: The Sexiest Job of the 21st Century. Harvard Business Review. <https://hbr.org/2012/10/data-scientist-the-sexiest-job-of-the-21st-century>
11. Davenport, T. H. And Patil, DJ. (2022). Is Data Scientist Still the Sexiest Job of the 21st Century? Harvard Business Review. <https://www.tomdavenport.com/is-data-scientist-still-the-sexiest-job-of-the-21st-century/>
12. Edquist, A., et al. (2020). Data Ethics: What it means and what it takes. McKinsey Digital. <https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/data-ethics-what-it-means-and-what-it-takes#/>
13. Salganik, M. J. (2019). Bit by bit: Social research in the digital age. Princeton University Press.
14. Simonite T., (2018). When It Comes to Gorillas, Google Photos Remains Blind. WIRED. <https://www.wired.com/story/when-it-comes-to-gorillas-google-photos-remains-blind/>
15. Kolkman, D., (2020). “F**k the algorithm”?: What the world can learn from the UK’s A-level grading fiasco. <https://blogs.lse.ac.uk/impactofsocialsciences/2020/08/26/fk-the-algorithm-what-the-world-can-learn-from-the-uks-a-level-grading-fiasco/>