

# Why you should learn about Data Science @WU?

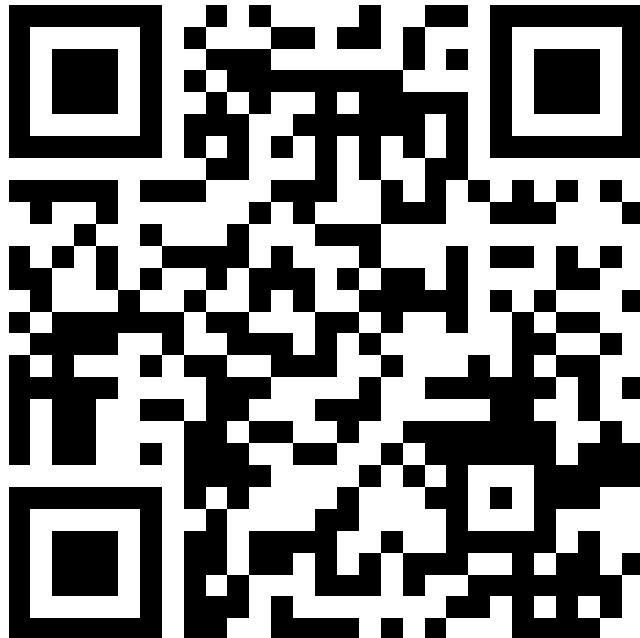


Prof. Axel Polleres, Dr. Sabrina Kirrane

- *Find these slides at:*  
<http://polleres.net/presentations/>



# SBWL Web page:



Info on our Webpage:

- description
- green card
- contact (for questions)
- registration details/dates

<https://www.wu.ac.at/en/dpkm/teaching/sbwl-data-science>

# Where to find this Slidedeck & Key Dates?



## Important Dates:

### Important Dates:

#### ***Tutorials (Online):***

Tue, 05.02.2026, 13:00-16:00  
Wed, 06.02.2026, 13:00-16:00

#### ***Entry Exam (Online):***

Tue, 10.02.2025, 8:00-10:30

Don't miss the LPIS registration!

<http://polleres.net/presentations/>

# Why you should learn about Data Science @WU?

Harvard  
Business  
Review

~12  
years  
ago

# Data Scientist: The Sexiest Job of the 21st Century

by Thomas H. Davenport and D.J. Patil

FROM THE OCTOBER 2012 ISSUE

<https://hbr.org/2012/10/data-scientist-the-sexiest-job-of-the-21st-century>

More  
current  
perspec-  
tive:

# Is Data Scientist Still the Sexiest Job of the 21st Century?

by Thomas H. Davenport and DJ Patil

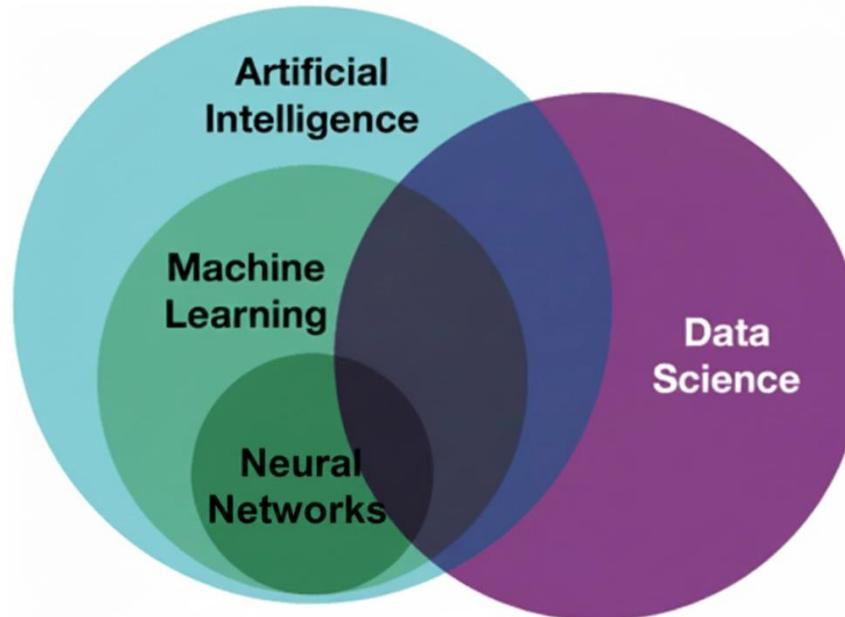
July 15, 2022

<https://hbr.org/2022/07/is-data-scientist-still-the-sexiest-job-of-the-21st-century>

*“...the scope of the job has been redefined, the technology it relies on has made huge strides, and the importance of non-technical expertise, such as ethics and change management, has grown”*

# Why you should learn about Data Science @WU?

Data  
Science  
today:



*Artificial Intelligence* – AI is the broad concept of developing machines that can simulate human thinking, reasoning and behavior.

*Data Science* – *Data Science is the processing, analysis and extraction of relevant assumptions from data. It's about finding hidden patterns in the data.*

<https://www.deviq.io/insights/artificial-intelligence-vs-machine-learning-vs-data-science>

# Data-driven Businesses everywhere:

 **Google** Big Data as core business: **Google** does not hire anybody without IT-knowledge

 **Apple**: from hardware company to data company (music and content)

 **Amazon**: from books to data-driven business

 **NETFLIX** **Netflix**: from DVD distribution to original content (mining user preferences)

 **Red Bull**: Marketing increasingly requires Data Science

 **BMW**: Supply-Chain, Intelligente Produktion, in-car-Technologie (car-to-car communication,...), etc.

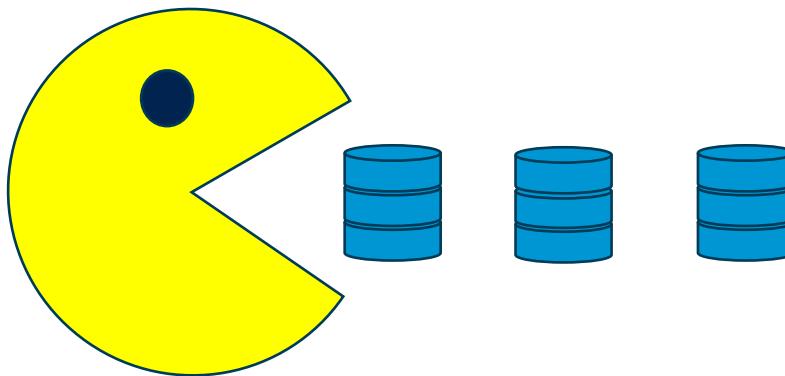
 **UN**: One of the biggest providers of Open Data, Disaster & Crisis Management, etc.

 **UNdata**  
A world of information

# Last, but not least... AI is data-hungry

AI

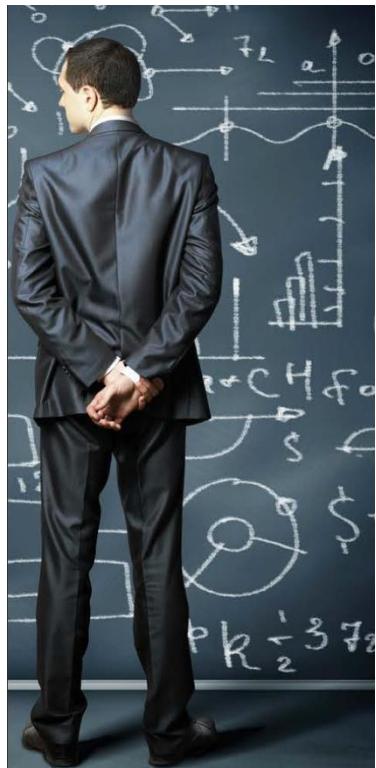
- AI depends on lots of data
- Understand scalability issues!
- Understand **Data Quality** & **Data Governance** requirements!
- Learn how to curate and feed data into Machine-Learning
- Understand risks and biases!



# Job descriptions and roles

- Data Science skills and base knowledge have become important at all levels, **incl. the executive level!**
  - Data Scientist
  - Data Stewards
  - Chief Data Officer
  - Chief Digital Officer
  - Chief Information Officer
  - ...

# What is the new thing about Data Science?



Die Schlüsselposition „Data Scientist“ ist für Unternehmen da, wo innovative neue Lösungen entwickelt werden müssen, abseits des „Tagesgeschäfts“.

Ausbildung und Arbeit der Zukunft in der Ära von Big Data

## Das neue Berufsbild „Data Scientist“

<http://www.ocg.at/sites/ocg.at/files/medien/pdfs/OCG-Journal1503.pdf#13>

<https://executiveacademy.at/en/news/detail/data-governance-vs-data-science-twins-but-nothing-alike>

Data Governance vs. Data Science - Twins, But Nothing Alike

November 27, 2019

Why data governance is so important

“Data is the raw material of the 21st century,” German Federal Chancellor Angela Merkel pointed out in 2016. And she was certainly right. Yet the crux of the matter is that high quality data must be available (data governance) in order for companies to optimally use this raw material. Only then can experts analyze and interpret the data in order to make strategically relevant decisions (data science). At least, that is the theory. Prof. Axel Polleres, Academic Director of the recently established Professional MBA Digital Transformation & Data Science at the WU Executive Academy, explains why companies will not be able to do without either, data governance and data science, in the future and how these two very similar phenomena differ in practice.

EFMD **EQUIS** ACCREDITED

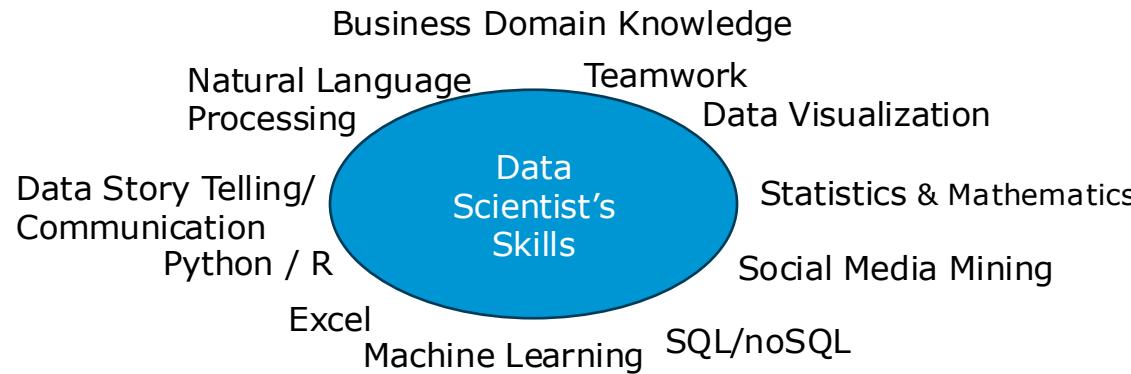
AACSB ACCREDITED

ASSOCIATION **AMBA** ACCREDITED

# Data Scientists' Skills – What does it take?

adapted from

<https://bootcamp.berkeley.edu/blog/data-scientist-skills/>  
(and several other sources ;-))



- Solid basis: Math, Statistics, Programming, Data Engineering
- **Curiosity& Creativity – find the needle in the „haystack“**
- Learn to learn *new technologies* quickly
- Develop front-to-end solutions, often adhoc
- **Domain-specific background knowledge**
- communicative skills **AND team spirit „Data Science Teams“**

# Data Science SBWL – How do you get there?

<https://www.wu.ac.at/dpkm/teaching/sbwl-data-science/>

- **Interdisciplinary! International!**

- 6 Institutes:
  - Data, Process and Knowledge Management,
  - Production Management,
  - Complex Networks,
  - Statistics & Mathematics,
  - Marketing,
  - Business Law
- all courses taught in **English**
- 5 Courses (PI 2.0) :
  - **SBWL DS 1:** Data Processing 1
  - **SBWL DS 2:** Data Analytics
  - **SBWL DS 3:** Data Processing 2: Scalable data processing,  
Legal & Ethical foundations of data science, Open Data
  - **SBWL DS 4:** Applications of Data Science  
(Production Management, Supply Chain, Marketing,  
Process Management, Computational Social Sciences)
  - **SBWL DS 5:** Data Science Lab,  
in collaboration with real data providers!

# Data Science SBWL: Organisation

<https://www.wu.ac.at/dpkm/teaching/sbwl-data-science/>

- Schedule, cohort starting in fall:

Winter Semester	Summer Semester
<ul style="list-style-type: none"><li>• Data Processing 1</li><li>• Data Processing 2</li><li>• Data Analytics</li></ul>	<ul style="list-style-type: none"><li>• Applications of Data Science</li><li>• Data Science Lab</li></ul>

- ... vs. cohort starting in spring:

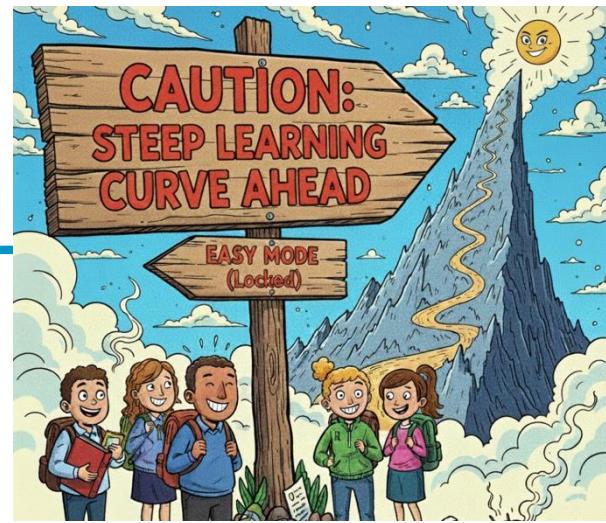
Summer Semester	Winter Semester
<ul style="list-style-type: none"><li>• Data Processing 1</li><li>• Data Processing 2</li><li>• Data Analytics</li></ul>	<ul style="list-style-type: none"><li>• Applications of Data Science</li><li>• Data Science Lab</li></ul>

- Bottomline: plan 2 consecutive semesters for our SBWL!

# Steep Learning curve? Well, yes but... high reward!

## 1. You can prepare!

- "Algorithmic Thinking and Programming" course ... recommended, but not strictly needed
- DataCamp python & R tutorials to get a glimpse (*access will be provided through the courses*)



## 2. We'll provide support!

- Our **tutors** provide help, particularly for students new to coding and programming (*New: we'll provide separate "bridging tutorials" to support you in the first assignments and get all "up to speed"*)
- Group works emphasizing on mixed skills and mutual support!
- Get help through our course **online forums**  
(*we commit to response-within-a-day (except weekends ;-))*)



Data  
Science  
is a team  
sport!

## High reward, high impact!

You'll be trained up to solving real use case with real partners, e.g.:



# Data Science Lab – news!

## ***WU Innovative Teaching Award 2023***

*Schwerpunkt „Gemeinsam Lehren:  
Innovative Kooperationen und  
Partnerschaften“*



### ***High reward, high impact!***

You'll be trained up to solving real use case with real partners, e.g.:



# Data Science SBWL: Organisation

<https://www.wu.ac.at/dpkm/teaching/sbwl-data-science/>

- **Requirements:**

- Willingness & Fun to work “hands-on” with data!
  - Learn the most popular Data Science tools
- Willingness **to work in teams** and **interdisciplinary!**
- Willingness to solve (data) problems!



- **Qualification to enter the SBWL:  
Register for the entry test/tutorials via LPIS!!!**

Factors taken into account:

- best grades transcripts/Avg grades
- plus, at max 10 "Green Cards":

## BaWISO/WiRe

Avg. grade 1.5 among these courses:

- Algorithmic Thinking and Programming
- Data and Knowledge Engineering
- Statistics

- online entry exam – all recommended to take the entry exam (even if you qualify for a green card!)

Details described on our Web page:  
<https://www.wu.ac.at/dpkm/teaching/sbwl-data-science/>

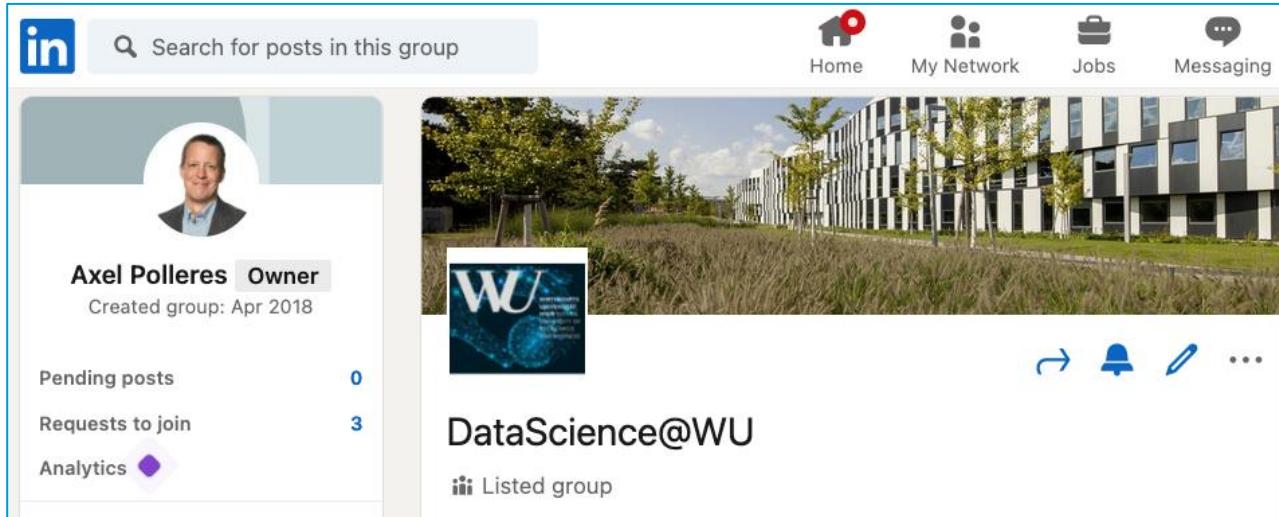
**BBe** - Avg. grade 1,5 among these courses:

- Quantitative Methods 1
- Quantitative Methods 2
- Business Analytics 2

**Note: all (also green card holders need to register for the entry test/tutorials on LPIS! → counts as registration of interest to the SBWL)**

# Our Data Science@WU Community:

- DataScience@WU - Alumni network on **LinkedIn**
  - Keep in touch with our company coaches, lecturers, current students and alumni!



The screenshot shows the LinkedIn group page for "DataScience@WU". At the top, there is a search bar with the placeholder "Search for posts in this group". Below the search bar are four navigation icons: "Home", "My Network", "Jobs", and "Messaging". The "Home" icon features a red "p" symbol. The "My Network" icon features a person icon. The "Jobs" icon features a briefcase icon. The "Messaging" icon features a speech bubble icon. The main content area shows a profile picture of Axel Polleres, the owner of the group. Below the profile picture, it says "Axel Polleres Owner" and "Created group: Apr 2018". To the right of the profile picture is a large image of a modern building with a black and white striped facade. Below the image, there are four small icons: a blue arrow, a blue bell, a blue pen, and three dots. To the left of the main content area, there is a sidebar with the following information:

- Pending posts: 0
- Requests to join: 3
- Analytics: 0

At the bottom of the sidebar, it says "Listed group".

- once per semester we meet at the **"DataScience@WU-Stammtisch"** with students, lecturers, industry coaches and alumni...

*For our own research on Data Science, Data Quality, etc. visit <http://data.wu.ac.at>*



 Axel Polleres (Q54860587)  
@AxelPolleres

(non-privacy-violating :-)) snapshot of our yesterday's "#DataScience @wu.vienna" Stammtisch" our annual informal meetup with th #SBWL specialization students ... great discussions, thanks also to lecturers and alumni! Looking forward to the next meetup!



Ronald Hochreiter and 4 others

# Our Data Science@WU Community:



Corinna Häsele • 1st

1mo (edited) \*\*\*

Sicher und selbstbewusst mit Stress umgehen! Better linked bietet si...

Working with data in my whole career, made me always curious about new methods, to analyze data and gain information. The part time education in data science at WU was ideal. Great discussions with [Axel Polleres](#) and Daniel Dan!

Starting the education, I developed a new business idea that fully changed my life. Last year I founded [#betterlinked.eu](#), a platform for stressmanagement, that is based on natural language processing. Thanks to [Ronald Hochreiter](#) for the co-operation.



Florian Jauernig • 1st

MSc Student Digital Economy | WU Vienna

1mo \*\*\*

The Data Science specialization is easily the best option for any student in the Information Systems branch of WU's bachelor program in Business and Economics. It helps students reinforce their Python expertise and analytical skills, teaches problem solving in a highly relevant area and builds bridges to interesting companies that might even follow up on the final project with job offers. While the work load is significant, the learning effect is also unparalleled. I can recommend this specialization without any limitations.



Raphael Dachs • 1st

Building and Breaking AI

1mo \*\*\*

The Data Science SBWL was easily the most valuable learning experience of my whole undergraduate degree. Not only because of the interesting courses but because of the friends and relationships formed throughout. And even though we were part of the first Data Science SBWL cohort (which is now already quite a while ago), I am still in contact with a few of them.

I was already holding positions as a working student/part-timer in companies as a data scientist/analyst but I feel like there were a lot of things introduced to me that deepened my understanding and showed me new approaches.

After finishing the course I went into consulting as a Machine Learning Engineer (actually got offered an internship pretty much at the end of course 5) and have been doing it ever since (... and founded my own AI company last year).



Katarina Lucic • 1st

1mo \*\*\*

Developing individuals, organizations and myself has always been a c...

Together with [Axel](#) I started the Data Science Program and was responsible for it. Before that, I had a preference for statistics but no idea about what Data Science really is. My task was, among other things, to advise students on the program. To be able to do this better and out of curiosity, I visited the program myself. I found and still find that the program is very valuable and I could learn a lot.

I now work as Head of Recruitment and Personnel Development and what I learned in the program has accompanied me in every position and activity so far. It changes the way you solve problems. What has changed significantly for me is that I am now much more inclined to Data Driven Decision Making. I argue wherever possible with results from data analysis. E.g. which courses we will offer in the future but also how we will design our recruiting in the future.



Horia Stefan Dinu • 1st

1mo \*\*\*

Master student at WU

The Data Science specialisation is the best course path i took at WU during the undergraduate program. Most importantly, I had almost no knowledge in the topic at start, and after one year i built a great foundation for further learning. The SBWL certainly does not make you a senior data scientist, but it surely can spark your interest and help one find entry-level positions in the industry. Moreover, i enjoyed the professors teaching style and the materials covered, which heleped choose to continue studying at WU in the Digital Economy master (which i can also wholeheartedly recommend).

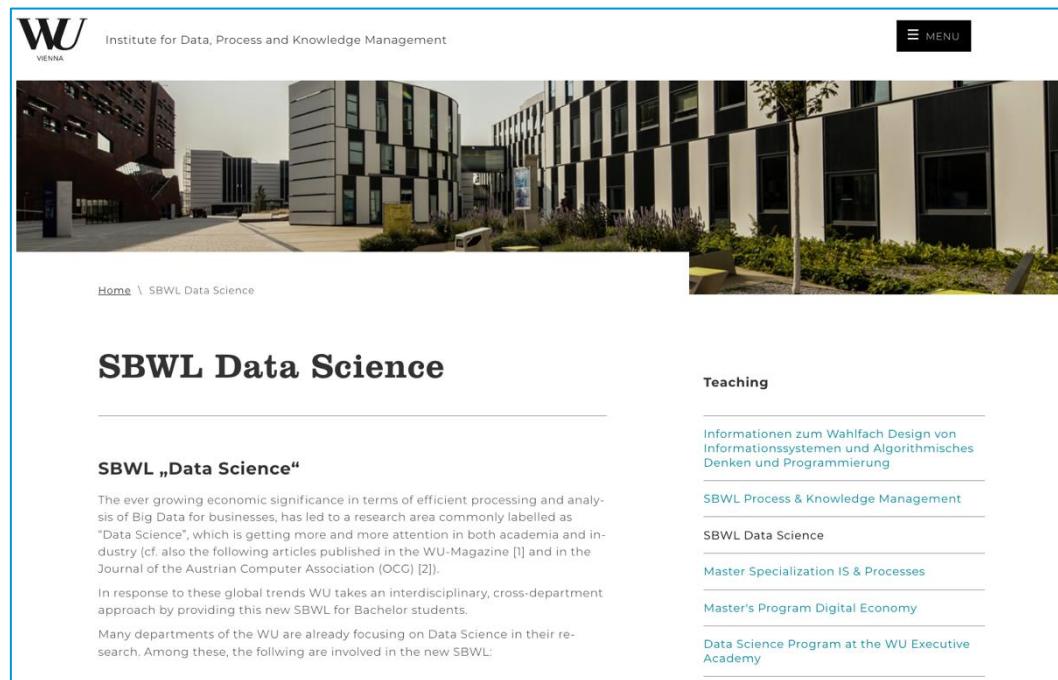
## **Questions?**

***Looking forward to seeing many of you in the coming semester!!***

<https://www.wu.ac.at/en/dpkm/teaching/sbwl-data-science>

All further info on our Webpage:

- description
- green card
- contact (for questions)
- registration details/dates



The screenshot shows the homepage of the Institute for Data, Process and Knowledge Management. The top navigation bar includes the WU logo, a search bar, and a 'MENU' button. Below the header is a large image of a modern, multi-story building with a curved facade and large windows. The page title 'SBWL Data Science' is prominently displayed. A sub-section titled 'SBWL „Data Science“' provides a brief description of the field, mentioning its growing significance in business. To the right, a sidebar lists various academic programs and resources, each with a small icon. At the bottom, accreditation logos for EQUIS, AACSB, and AMBA are displayed.