## Stuttgart Media University

### Course Catalog

**Business Analytics**  
(Feb. 2020, valid for Winter Semester 2020/21)

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Business Intelligence Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bachelor Level Course (Typically taken during 2nd or 3rd year)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course No</th>
<th>733505</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturers name</td>
<td>Prof. Dr. Peter Lehmann</td>
</tr>
<tr>
<td>Teaching language</td>
<td>English</td>
</tr>
<tr>
<td>Credits (ECTS)</td>
<td>6</td>
</tr>
<tr>
<td>Teaching/learning methodology</td>
<td>Interactive lecture and project with group work</td>
</tr>
</tbody>
</table>

### Total workload

- 60 hours teaching time  
- + preparation and follow-up work: 60 hours  
- + project work, preparation of presentations, research, essay etc.: approx. 60 hours  
- = 180 hours

### Contact hours per week

4 hours

### Type of exam

Essay

### Learning outcomes

You will learn about different Business Intelligence Applications and how and where to use them.

#### Abstract

With a serious business game, you will learn about fundamentals of Business Intelligence.

After the course, students will be able to understand the following concepts:

- Data-Warehouse-Architectures  
- Modelling a Data Mart  
- Dimensional Fact Modelling  
- Modelling a Star Schema  
- Modelling a Galaxy Schema - Extraction, Transformation, Loading with MSSQL Integration Services  
- Online Analytical Processing mit MS Excel Powerpivot  
- Building a Data Cube  
- Working with Cube Perspectives  
- Data Visualisation with MS Power BI  
- Introduction to Data Mining  
- Building a Close Loop Scenario with a Data Mining Service

The course does include practical Hands-Ons in PC labs. If students want to use their own device, a Microsoft Win7 or Win10 PC is required. Microsoft Visual Studio Data Tools 2015 has to be installed. Apple users will be offered virtual servers.

### Contents/Indicative syllabus

Please note: Detailed syllabi are not a standard in German universities; students should expect to be informed of assignments verbally and/or via an online learning platform, i.e. Moodle.

### Reading Materials

A script will be available.

### Weblinks

[www.hdm-stuttgart.de/english/exchange_students](http://www.hdm-stuttgart.de/english/exchange_students)
## Course Title

**Project: Building a Data Warehouse**

Bachelor Level Course (Typically taken during 2nd or 3rd year)

### Course No

338010 - 1

### Lecturers name

Prof. Dr. Peter Lehmann

### Teaching language

English

### Credits (ECTS)

5

### Teaching/learning methodology

Interactive lecture and project with group work

### Total workload

- 45 hours teaching time
- + preparation and follow-up work: 45 hours
- + project work, preparation of presentations, research, essay etc.: approx. 60 hours
- = 150 hours

### Contact hours per week

3 hours

### Type of exam

Essay

### Learning outcomes

In this lecture you will learn how to build up a data warehouse with SAP Business Warehouse on HANA.

### Abstract

Content of the training is the new curriculum for business intelligence which has been completely redesigned to SAP BW Release 7.5 on HANA. The modular core modules include «Multidimensional Analysis» (using SAP BusinessObjects Advanced Analysis for Office), «Modeling in SAP BW 7.5» (using SAP BW Modeling Tools), «SAP EDW», «Queries Basic and Advanced». In addition, more advanced cases are presented, that complement the core modules such as «ABC Analysis», «Hierarchical Modeling» and «Slowly Changing Dimensions».

Based on the model company "Global Bike Inc.” the entire business intelligence process is played with practical exercises in the SAP BW 7.5 on HANA and dealt with separately in the changes since release 7.4.

The curriculum is designed that individual parts of the business intelligence can be lit from a user perspective and thus also used in business events (A modules). There are also more technically oriented modules for students in computer science or business informatics (B modules). The documents include slides, case studies and exercises and are written in English. Finally, there will be a discussion about the usage of the curriculum in the SAP university alliances system environment.

A-Modules

A1 Multidimensional Analysis using Microsoft Excel
A2 Multidimensional Analysis using SAP Business Objects for MS Office
A3 Advanced Features of SAP Business Objects Analysis for MS Office
A4 Case Query Basic
A5 Case Query Advanced
A6 ABC Analysis
B-Modules

B1 Modelling Tools in SAP BW
B2 Case Data Acquisition
B3 Case Modelling Basics
B4 Case MasterData
B5 Case Enterprise Data Warehouse
B6 Case Hierarchical Modeling
B7 Case Slowly Changing Dimensions.

### Contents/Indicative syllabus

Please note: Detailed syllabi are not a standard in German universities; students should expect to be informed of assignments verbally and/or via an online learning platform, i.e. Moodle.

### Reading Materials


### Weblinks

[http://bwhanabook.de/](http://bwhanabook.de/)
### Course Title

**Project: Building A Digital Unicorn - How To Get Started**

Bachelor Level Course (Typically taken during 2nd or 3rd year)

<table>
<thead>
<tr>
<th>Course No</th>
<th>338010 - 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturers name</td>
<td>Prof. Dr. David Klotz</td>
</tr>
<tr>
<td>Teaching language</td>
<td>English</td>
</tr>
<tr>
<td>Credits (ECTS)</td>
<td>5</td>
</tr>
<tr>
<td>Teaching/learning methodology</td>
<td>Hands-on project work; with focus on agile and iterative methodology and the “try-fail-repeat” learning cycle</td>
</tr>
<tr>
<td>Total workload</td>
<td>1 kick-off day (8 hours) + 45 hours with a mix between workshop and instruction mode + 92 hours project work and preparation time for presentation + 5 hours final presentations at the end of the semester</td>
</tr>
<tr>
<td>Contact hours per week</td>
<td>3 hours</td>
</tr>
<tr>
<td>Type of exam</td>
<td>Combination of the deliverable (the product development organisation) and an optional project reports with reflections on personal learnings</td>
</tr>
</tbody>
</table>
| Learning outcomes | Students will learn about the technical and organisational challenges when building a digital product (e.g. an app). Example questions that will be discussed in the course include:  
  - Which skills and roles are needed to build the product?  
  - Which methodologies and tools are best suited?  
  - Which aspects of the building process are most relevant?  
  - Which architecture provides most flexibility and scalability?  
  - Which technology building blocks are required?  
  - Which cloud services might be helpful?  
  - Which deployment and operations approach might be helpful?  
  - Which quality measures might be helpful?  
  | Abstract | In this course, we aim to dream big: Unicorns are startups that have managed to achieve a market value of 1 billion US-Dollars before going public. Well-known unicorns are for example Uber, Snapchat, or Pinterest and there are also a few German unicorns, for example Zalando or Rocket Internet. Most founders dream of building a unicorn when they start their business. However, as reality shows, the goal is far from easy to achieve, and there are numerous challenges to overcome. Therefore, it might be helpful for students to understand the implications of technical or organizational decisions they face during the first days of building a digital product.  
  
  In this project, we will put ourselves in the shoes of a startup that is centered around an innovative digital product, and we will imagine it is day 1. Students are encouraged to bring their own ideas for an innovative digital product with them (“make it yours!”), but it is not a fix requirement. Throughout the course of this project, students will work in groups in order to discover and learn how to build a digital product that has the potential to grow, and possibly become a unicorn one day. Thereby, the focus is on “building” the product, i.e. technical and organizational aspects.  
  | Contents/Indicative syllabus | The course is highly practice-oriented and aims to enable students to find pragmatic answers to the challenges mentioned in section “Learning outcomes” above.  
  | Reading Materials | The project design is very open, with a strong emphasis on the “try-fail-repeat” learning cycle. Consequently, students must be willing to deep-dive into specific subject areas independently, reflect on the success of their actions and course-correct, if needed |
| Weblinks | |

[www.hdm-stuttgart.de/english/exchange_students](www.hdm-stuttgart.de/english/exchange_students)
## Course Title
Big Data Scenarios

### Bachelor Level Course (Typically taken during 2nd or 3rd year)

<table>
<thead>
<tr>
<th>Course No</th>
<th>335103</th>
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</thead>
<tbody>
<tr>
<td>Lecturers name</td>
<td>Prof. Dr. Hendrik Meth</td>
</tr>
<tr>
<td>Teaching language</td>
<td>English</td>
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<tr>
<td>Credits (ECTS)</td>
<td>10</td>
</tr>
<tr>
<td>Teaching/learning</td>
<td>Interactive lecture and project with group work</td>
</tr>
</tbody>
</table>
| Total workload     | 45 hours teaching time  
+ project work, preparation and follow-up work: 135 hours  
+ preparation time term paper: approx. 120 hours  
= 300 hours |
| Contact hours per  | 3 hours |
| week               |        |
| Type of exam       | Group Project |
| Learning outcomes  | Completing the course, you will be able to  
- describe the foundations and most important concepts of Big Data and Big Data Analytics  
- select suitable Big Data algorithms and architectures  
- work with state-of-the-art platforms and technology for Big Data scenarios  
- run a project in the context of Big Data |
| Abstract           | The module “Big Data Scenarios” introduces students to the analysis of large volumes of text data in different formats (structured, semi-structured, unstructured). The module consists of four elements:  
- The lecture introduces Big Data architectures, methods and concepts.  
To get an in-depth understanding of the introduced methods, they are applied in two types of labs:  
- tool-based labs, using state-of-the-art data science software (RapidMiner) and  
- method-based labs without any specific data science tool support.  
Finally, students work in teams to implement a full big data analytics solution, applying the methods and tools, which they got to know in the labs.  
The module has no formal pre-requisites, but is addressed to bachelor students in their final semesters. No programming is required but good analytic skills, a high motivation and an interest to develop models. |
| Contents/Indicative syllabus | Please note: Detailed syllabi are not a standard in German universities; students should expect to be informed of assignments verbally and/or via an online learning platform, i.e. Moodle. |
| Weblinks           | www.hdm-stuttgart.de/english/exchange_students |