inf607 - Business Intelligence II

Module name | Business Intelligence II
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Module code | inf607
ECTS credit points | 6.0 KP
Workload | 180 h

Used in degree programmes
- Master's Programme Business Informatics > Akzentsetzungsmodul Bereich Wirtschaftsinformatik
- Master's Programme Computing Science > Mastermodule

Contact person
module responsibility
- Jorge Marx Gomez
- Die im Modul Lehrenden
authorized examiners
- Jorge Marx Gomez
- Die im Modul Lehrenden

Prerequisites

Skills to be acquired in this module
Current module provides advanced business intelligence, data science with focus on enterprises and strong emphasis on big data and data analytics. Students of the course are provided with knowledge, which reflects current research and development in a data analytics domain.

Professional competence
The students:
- name and recognize the role of data analytics/data science as part of a daily business process in a particular company
- able to organize from management perspective data analysis project
- being able to analyse advantages and disadvantages of different approaches and methods of the data analytics and being able to apply them in simple case studies
- obtain theoretical knowledge about data collection and modelling processes, including state of the art approaches and available best practices

Methodological competence
The students:
- being able to execute typical tasks of data analysis, and also being able to proceed deeper with respect to different approaches and methods
- gain hands-on experience and being able to understand advantages and disadvantages of different methods and being able to use obtained knowledge

Social competence
The students:
- build solutions based on case studies given to the group, for example design of regression model based on provided dataset
- discuss solutions on a technical level
- present obtained case studies solutions as part of the exercises

Self-competence
The students:
critically review provided offered information

**Module contents**

After current course students will get advanced knowledge in the domains such as business intelligence and data analytics. Besides that, students will have a chance to have a deeper look into related technical fields such as InMemory Computing, Data Mining and Machine Learning, Big Data Processing with Distributed Systems (e.g. Apache Hadoop / Spark) from both, research and practical, perspectives. Students will be provided with real-world experience gather from business intelligence and data science related projects. Materials of the course are believed to be justified with current demands of data analytics market. Thus, providing students with relevant knowledge in order to give them advantages in future job.

**Recommended reading**

- Jürgen Cleve, Uwe Lämmel (2014): “Data mining” (Deutsch)
- Max Bramer (2013): “Principles of data mining” (English)
- Ian Witten, Eibe Frank, Mark Hall (2011): “Data mining : practical machine learning tools and techniques” (English)
- Jure Leskovec, Anand Rajaraman, Jeffrey Ullman (2014): “Mining of massive datasets” (English)

**Links**

http://www.wi-ol.de/

**Languages of instruction**

German, English

**Duration (semesters)**

1 semester

**Module frequency**

jährlich

**Module capacity**

Unlimited

**Modullevel**

AS (Akzentsetzung / Accentuation)

**Modulart**

je nach Studiengang Pflicht oder Wahlpflicht

**Lern-/Lehrform / Type of program**

SE according to the announcement at the course start (2 SWS L + 2 SWS E or Blockseminar)

**Vorkenntnisse / Previous knowledge**

**Examination**

<table>
<thead>
<tr>
<th>Examination periods</th>
<th>Type of examination</th>
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</thead>
<tbody>
<tr>
<td>Final exam of module</td>
<td>At the end of the lecture period</td>
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**Course type**

<table>
<thead>
<tr>
<th>Course type</th>
<th>Comment</th>
<th>SWS</th>
<th>Course frequency</th>
<th>Workload attendance</th>
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</thead>
<tbody>
<tr>
<td>Lecture</td>
<td></td>
<td>2</td>
<td></td>
<td>28 h</td>
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<tr>
<td>Seminar</td>
<td></td>
<td>2</td>
<td></td>
<td>28 h</td>
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</tbody>
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**Total attendance time for module**

56 h