

Modul description Business Analytics

Keywords: Business Analytics, OLAP, Business Performance, ETL, Datawarehouse, Visual Analytics

Target group:	6 th semester WKB	Module number:	105 6045
Workload:	5 ECTS		150 h
Thereof	Contact time		60 h
	Self-study		60 h
	Exam preparation		30 h
Teaching language:	German or English		
Module responsibility:	Prof. Dr. Dirk Hesse		
Current status:	Sept. 2022		

Recommended prerequisites:

Statistics
Object Oriented Systems 1 (Java)
Object Oriented Systems 2 (Java)
Databases 1
Databases 2

Modul Objective – Intended Learning Outcomes:

With this module, students deepen their abilities to apply technologies, algorithms, applications and visualisations in a beneficial way for internal or external company purposes. In particular, they are able to generate new business insights based on internal and external data.

Knowledge - professional competences

The students know

- the basic concepts of business analytics
- the significance for entrepreneurial practice
- various concepts and methods of BA

Skills - methodological competences

Students will be able to

- Prepare data from internal and external sources for the algorithms to be applied in a task-oriented manner,
- Generate dynamic query models from heterogeneous data sources,
- Set up decision models using different algorithms,
- Visualize results for different recipients to support business decisions and actions.

Overarching competences

Students can

- select and implement suitable BA procedures for specific fields of application,
- Improve staff communication, especially at the interface between professionalism and technology.

Content:

Deepening methodological competence in the area of business analytics:

- Processing internal and external data in the ETL process
- Logical modelling (Star Schema, Snowflake Schema etc.)
- Setup of multidimensional models (OLAP Cubes)
- Creation of dynamic query models
- Reporting and analysis using various tools, queries and web reports

References:

Business Intelligence, Analytics, and Data Science: A Managerial Perspective. Pearson Education (US); 4th Edition, 2017.
Analytics, Data Science, & Artificial Intelligence: Systems for Decision Support, Sharda et al. 2019.
Business Intelligence & Analytics - Fundamentals and Practical Applications: An Introduction to IT-based Management Support, Kemper, Baars, Springer Vieweg, 4th edition 2020).

Is offered:

Winter semester und Summer semester

Subjects and credits:

Teaching and learning form:	Lecture with seminar
Performance monitoring:	Written exam (90 minutes)
Proportion of semester hours per week:	3 SWS
Estimated student working hours:	90 hours

Learning outcomes:

Students have knowledge of the basic concepts of business analytics. They have the skills to distinguish between different approaches, methods and can analyse company, competitor and customer data. They have the competence to integrate the presented concepts into the company-wide information and knowledge management.

Teaching and learning form:	Project work (laboratory)
Performance monitoring:	Presentation, Testat
Proportion of semester hours per week:	1 SWS
Estimated student working hours:	30 hours

Learning outcomes:

Students have the skills to model and implement BA systems. In particular, they have mastered various concepts and can apply them in the context of business management issues and implement them independently in BA reporting and planning systems.

Formation of the module grade:

Written exam