

Short Title:	Business Intelligence APPROVED
Full Title:	Business Intelligence
Module Code:	ADSA H6012
ECTS credits:	10
NFQ Level:	9
Module Delivered in	1 programme(s)
Module Contributor:	Markus Hofmann
Module Description:	Module aims include: • Investigate state of the art industry and research trends in business intelligence • Conducting level 9 research and how to communicate results.
Learning Outcomes:	
<i>On successful completion of this module the learner will be able to</i>	
<ol style="list-style-type: none"> 1. Evaluate the role and benefits of effective business intelligence in the organisation 2. Demonstrate awareness and critical understanding of developments in data warehouse design and implementation 3. Demonstrate awareness and critical understanding of developments in business intelligence front end tools and techniques 4. Independently research current trends and developments in business intelligence related technologies 5. Apply research methods to their work and differentiate between exploratory, constructive and empirical research 6. Demonstrate awareness and critical understanding of applications in the areas of ETL, Databases, and BI 7. Evaluate and critique current legislation on data privacy and relevant ethical issues 	

Module Content & Assessment

Indicative Content
Introduction to research methods General introduction to research methods such as resources, literature reviews, document structure, referencing, etc.
Business Intelligence Introduction to Business Intelligence, how business intelligence adds value
BI Architecture Database and data warehouse technologies and architectures, Data integration, and ELT
Databases and Data Warehousing RDBMS, NoSQL, Data Warehousing frameworks and methodologies, OLAP. Data Profiling is also addressed
BI front-end Business querying and reporting, OLAP, dashboard
ETL Extract, Transform and Load concepts and tools
Data privacy and ethics General concerns and issues around areas such as data privacy law and regulations as well as ethical consideration of advanced data analysis

Indicative Assessment Breakdown	%
Course Work Assessment %	100.00%

Course Work Assessment %				
<i>Assessment Type</i>	<i>Assessment Description</i>	<i>Outcome addressed</i>	<i>% of total</i>	<i>Assessment Date</i>
Essay	Students must prepare a literary review and analysis and give an oral presentation of at least one of their research areas. Topics may include: • Transformation of Data into Knowledge • Data Warehouse Development Strategies & Architectures • OLAP as a Business Intelligence Tool • Data Privacy Issues in Business Intelligence and Data Mining • BI and obtaining an ROI • NoSQL vs RDBMS • What comes first: Datamarts or Enterprise Data Warehouses	1,2,3,4,5	30.00	Week 6
Written Report	Students are asked to apply learned skills in the database, data quality, ETL and BI domain to a data set of their choice.	2,3,5,6	45.00	Week 11
Other	Self evaluation based on the practical written report	1,6	5.00	Week 11
Essay	Students are asked to critically research a data privacy or relevant ethical issue.	7	20.00	Sem 1 End

No Final Exam Assessment %

Indicative Reassessment Requirement
Coursework Only <i>This module is reassessed solely on the basis of re-submitted coursework. There is no repeat written examination.</i>
Reassessment Description As per course work assessment

ITB reserves the right to alter the nature and timings of assessment

Indicative Module Workload & Resources

Resources

Recommended Book Resources

Jason W. Osborne 2012, *Best Practices in Data Cleaning: A Complete Guide to Everything You Need to Do Before and After Collecting Your Data*, SAGE Publications [ISBN: 1412988012]

Ralph Kimball, Margy Ross. 2013, *The Data Warehouse Toolkit*, New York; John Wiley & Sons, Inc [ISBN: 1118530802]

edited by Kenneth Einar Himma and Herman T. Tavani 2008, *The handbook of information and computer ethics*, Wiley Hoboken, N.J. [ISBN: 0471799599]

Roxy Peck 2007, *Statistics*, Cengage Learning [ISBN: 0495552992]

Ramesh Sharda, Dursun Delen, Efraim Turban ; with contributions by J. E. Aronson, Ting-Peng Liang, David King. 2013, *Business intelligence and analytics*, Boston; Pearson [ISBN: 1292009209]

Recommended Article/Paper Resources

James R. Marsden 2015, *Decision Support Systems* [ISSN: 0167-9236]
<http://www.journals.elsevier.com/decision-support-systems>

IEEE Transactions on Knowledge and Data Engineering
<http://www.computer.org/web/tkde>

This module does not have any other resources

Module Delivered in

Programme Code	Programme	Semester	Delivery
BN_KADSA_R	Master of Science in Computing in Applied Data Science & Analytics	1	Mandatory