



V-784-REK5

BUSINESS INTELLIGENCE AND ANALYTICS

6 ECTS

Ár:	Fyrsta ár MSc.
Önn:	Vorönn.
Stig námskeiðs:	Námskeið á meistarastigi.
Tegund námskeiðs:	Valnámskeið fyrir allar námsbrautir í MSc verkfræði.
Undanfarar:	Engir.
Skipulag:	Upplýsingar verða birtar í kennslukerfinu Canvas í upphafi annar.
Umsjónarkennari:	Tilkynnt síðar.

Lærdómsviðmið:

Collection of facts, concepts, theories and techniques acquired by students.

The student should be able to:

- Identify the major frameworks of computerized decision support, decision support systems (DSS), data analytics and business intelligence (BI).
- Describe the nature of information and data, explain their basic difference and its use in managerial decision making
- Explain the context and importance of gathering and managing data in the society and economy.
- Describe the core concepts of decision making and discuss how IT systems can support effective decision making.
- Discuss and know the main building blocks of data management systems as well as List the definitions, concepts, and architectures of data warehousing
- Describe the basic concepts of advanced analytics methods and understand their application
- Identify the major ethical and legal issues of analytics and data management

Skills:

During the course, student will have acquired the skills to perform various tasks of a BI and Information management specialists. The student should:

- Be able to critically evaluate strengths and weaknesses of BI projects
- Know the basic building blocks of a good BI program and how to apply them correctly
- Gathered knowhow on basic BI tools and evaluate their fit for purpose
- Know BI project best practices for BI projects and know how to apply them

Competences:

The student will have acquired the ability to apply knowledge and skills in Business Intelligence projects and regular business settings. The student should be able to:

- Effectively communicate course work in writing and oral presentation.
- Participate actively in BI projects and be ready to apply best practices BI work
- Make judgement on quality of data and assess its impact on decision making.
- Create and participate in data quality projects through various roles
- Participate in gathering information on and create high quality KPIs
- Act as an active member BI teams focusing on information management

Birt með fyrirvara um breytingar.

Uppfærðar upplýsingar um námsmat og kennsluaðferðir eru birtar í kennslukerfinu Canvas í upphafi hvorrar annar.

**Lýsing:**

In the modern business world, decisions can no longer be solely based on gut feelings and personal data. Rapid changes in customer preferences, unlimited access to information, mounting competitor pressures and evolving technology, make decision support for managers a critical function in every company. The field of business intelligence (BI), analytics and decision support systems has evolved from personal support tools to company wide applications, technology solutions, functions and competencies. This course deals with the technologies, competencies and solutions that support managerial work and decision making. The course provides a theoretical basis of decision making, describes how information technology can support and improve such decision making, what types of decision support systems there are, the nature and evolution of business intelligence, the tools and techniques of managerial decision support and describes some of the emerging technologies and trends in the business. The course discusses the following parts:

- Managerial and decision support – Theoretical discussions and basis
- Discussions about data assets, ethical concerns of managing and controlling information
- Managing and measuring the quality of data
- Data Warehousing, fundamentals of data modeling and the handling of master data
- Fundamental concepts of datamining, artificial intelligence, machine learning and data predictions
- Business performance management, analytics and reporting and its relation to data management and decision making
- Various emerging trends in the BI business.

The course should provide the student with a framework to understand decision support and business intelligence solutions, -work and projects. Based on textbook readings, cases and projects the student learns to apply this framework. The course will focus on generic approaches to decision support and business intelligence but will also include discussions on real life examples from Icelandic as well as foreign companies. Furthermore, there are planned sessions with companies which will describe their experiences with implementing decision support, business intelligence and performance management solutions. Please note that this course contains fair amount of technical details and - discussion. Experience has shown that the material is better suited for students with some prior knowledge and preparation from IT related courses or similar experience from work.

Lesefni, kennsluáðferðir, námsmat: Upplýsingar verða birtar í kennslukerfinu Canvas í upphafi annar.

Tungumál: Enska.

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