



## **BUSINESS INTELLIGENCE**

CODE: **ENST10352**

CREDIT HOURS: **48 HOURS**

PROFESSOR: **ALBERTO DE MEDEIROS JR.**

### **OBJECTIVES**

#### **General**

Empower the Master Students to diagnose and solve market problems based on information of different natures and sources, integrating it with internal information, aiming at the effectiveness of the company's results, such as the practice of business intelligence, possible decisions related to innovations of products and processes that promote the development of new markets.

#### **Specific**

- Enable Master Students to seek and analyze data that help characterize the reality of the opportunity identified, regarding its demand, prices, quality, distribution, image, competition, and other relevant aspects from reliable databases.
- Enable Master Students to obtain and process internal and external data that affect the use of the opportunity considering the decision-making regarding the adequacy of the company's capabilities and processes to ensure effective results.
- Understand the importance of information in companies for the integration of innovation with the development of new markets
- Identify the main information systems used by companies.
- Understand how information systems are used to support decisions in the integration of technologies and markets.
- Understand how Machine Learning and Artificial Intelligence can be used in the application for management decision making.
- Understand why visually represented data is suitable for decision makers.
- Use technological resources for interactive visualization of the data collected in companies.



## **FOCUS AND APPROACH**

The focus of the discipline is on issues related to the use of data, information and knowledge for the management of technology and innovation integrated to market needs, using technological resources for data analysis and visualization.

The discipline approach is theoretical-practical, using systems to support decision, data visualization and data mining, with emphasis on machine learning, which provides a space for discussion and practice of methods and techniques more suitable for applications aimed at solving concrete issues.

## **PROGRAMMATIC CONTENT**

1. Digital transformation and emerging technologies
  - 1.1. Digital Transformation
  - 1.2. Internet of Things
  - 1.3. Cognitive Computing
  - 1.4. Industry 4.0
  - 1.5. Cryptocurrencies
  - 1.6. Blockchain
2. Information Systems Integrating Technology, Innovation and Markets
  - 2.1. Introduction to Information Systems
  - 2.2. Information attributes
  - 2.3. The Roles of Information Systems
  - 2.4. Technology-Innovation/Market Integration
  - 2.5. The Search for Opportunity
3. Operating with Information Systems
  - 3.1. Information Systems in Operations
  - 3.2. Integrated Management Systems
  - 3.3. Information Systems to Support Decisions
4. Deciding with Knowledge
  - 4.1. Decision Structure in Companies
  - 4.2. Decision-Making Models
  - 4.3. Rationality in Decision
  - 4.4. The Rational Decision Model



- 4.5. Limited Rationality
- 4.6. Heuristics and their Vieses
- 5. Analyzing data, taking advantage of opportunities, and protecting yourself from threats.
  - 5.1. Business Intelligence Concept
  - 5.2. Database Management Systems
  - 5.3. Knowledge Discovery in Databases
  - 5.4. Data Mining Applications
  - 5.5. *Big Data*
  - 5.6. CRM Systems
  - 5.7. Decision Making Considered Opportunities and Threats

## **SOFTWARES USED**

RapidMiner (<https://rapidminer.com>)

SuperDecisions (<https://superdecisions.com>)

Tableau (<https://tableau.com>)

## **BIBLIOGRAPHY**

Note: **F** = physical book in Mackenzie libraries

**D** = digital book in Mackenzie libraries

**M** = available in Moodle

Barney, J. B., & Hesterly, W. S. (2011) *Administração Estratégica e Vantagem Competitiva*, 3. ed., São Paulo: Pearson. (**F, D**)

Davenport, T. (2014) *Big Data no Trabalho. Derrubando Mitos e Descobrendo Oportunidades*. Rio de Janeiro: Elsevier. (**F**)

Kahneman, D. (2012) *Rápido e Devagar: Duas Formas de Pensar*. Rio de Janeiro: Objetiva.

O'Brien, J. A., & Marakas, G.M. (2013) *Administração de sistemas de informação: uma introdução*. São Paulo: McGraw Hill, 2013. (**F, D**)



Perez, G., & Medeiros Jr., A. (2014) Processo Decisório e Sistemas de Informação. In: Prado, E.P.V., & Souza, C.A. (organizadores) *Fundamentos de Sistemas de Informação*. Rio de Janeiro: Elsevier. (F)

Sharda, R., Delen, R. & Turban, E. (2019) *Business Intelligence: enfoque gerencial em inteligência de negócios*. Porto Alegre: Bookman. (F, D)

Silva, L.A. (2015) *Mineração de Dados*. São Paulo: Mackenzie. (F)

Silva, L.A., Peres, S.M., & Boscariolli, C. (2015) *Introdução em Mineração de Dados – com aplicações em R*. São Paulo: Elsevier. (F, D)

Turban, E., & Volonino, D. (2010) *Tecnologia da Informação para Gestão – Em Busca da Melhor Desempenho Estratégico e Operacional*. Porto Alegre: Bookma