





Computer Science (COMP) 684

Business Intelligence (Revision 3)

Status: Replaced with new revision, see the [course listing](#)  for the current revision 

Delivery mode: [Grouped study](#) 


Credits: 3

Area of study: Information Systems

Prerequisites: **COMP 607** and **COMP 657** are highly recommended, but not required. Familiarity with business practices and techniques in Artificial Intelligence is an asset to successfully complete the course. Students must get approval from the Course Coordinator before registering.

Precluded: None

Faculty: [Faculty of Science and Technology](#) 

This is a graduate level course and students need to apply and be approved to one of the graduate programs or as a non-program [School of Computing and Information Systems](#) 

Notes:

graduate student in order to take this course. Minimum admission requirements must be met. Undergraduate students who do not meet admission requirements will not normally be permitted to take this course.

Coordinator:

Stella George [↗](#)

Overview

Business decision making requires a thorough understanding of business needs as well as computational tools that allow one to optimally execute these decisions. Optimal execution implies that decision makers need first-hand, in-depth, and contextual capacity to collect business data from highly distributed systems around the globe; to employ analytics techniques to discover business relationships; to communicate and collaborate effortlessly with clients, partners, and analysts; and to evolve a highly successful business practice. Decision makers can acquire these skills and strategies by studying and utilising a “seamlessly integrated” set of computational and business techniques, together referred to as *business intelligence*.

Analytics is a particular type of analysis, discovery, and utilisation of observed and inferred data traces (e.g., usage traces) in emergent and related levels of granularity. Analytics allows consumers to make informed decisions in virtually every industry imaginable. Business intelligence is one of the key drivers of the field of data analytics. This course explores how analytics, data science, and artificial intelligence feed on each other for effective enterprise decision support.

COMP 684 approaches business intelligence from both technological and managerial viewpoints. Learners are welcome to orient their study either towards implementing technologies that assist in business decision making or towards strategizing business decisions that determine technological expectations. The course closely follows the assigned eText by engaging learners in extensive, vivid examples from large corporations, small businesses, government, and not-for-profit agencies. Each topic addressed in the eText

analyzes business perspectives and technological advancements, and how they interrelate to open the world of business intelligence.

Outline

- Weeks 1 through 4 engage students with an overview of business intelligence, analytics, data science, and artificial intelligence.
- Weeks 5 through 12 examine predictive analytics using specific techniques such as machine learning and deep learning.
- Week 13 examines implementation issues of business analytics. Assignment One and the Study Journal are due in Week 13.
- Week 14 is when students submit Assignment Two.

Learning outcomes

Upon successful completion of this course, you will be able to

- discuss convergence frameworks for computer decision support, artificial intelligence, and analytics.
- examine predictive analytic techniques in data mining, traditional machine learning, deep learning, and cognitive computing.
- examine the implementation issues of business intelligence applications, including ethics, privacy, organizational impacts, and societal impacts.

Objectives

The objectives of this course are to provide graduate students of M.Sc. Information Systems with comprehensive and in-depth knowledge of business intelligence principles and techniques by introducing the relationship between managerial and technological perspectives. This course is also designed to expose students to the frontiers of BI-intensive computing and information systems that employ contemporary AI and machine learning, Internet of Things, and cognification technologies, while providing a sufficiently strong foundation to encourage further research.

Evaluation

To **receive credit** [↗](#) for COMP 684, students must achieve a minimum of 60% on Assignment One, 60% on Assignment Two, and 60% on the Study Journal.

To receive credits towards the Master of Science in IS, for Electives/Career Track, students must achieve a course composite grade of at least B- (70%).

The weighting of the composite grade is as follows:

Activity	Weight
Assignment One: individual or group work	70%
Assignment Two: individual work and oral defence	0%
Study Journal: individual work	30%
Total	100%

Materials

Digital course materials

Links to the following course materials will be made available in the course:

Sharda, R., Delen, D., & Turban, E. (2020). *Analytics, data science, & artificial intelligence: Systems for decision support* (11th ed.). Pearson.

Important links

- › [Future Course Offerings](#) [↗](#)
- › [Important Dates and Deadlines](#) [↗](#)
- › [MSc IS Contact Information](#) [↗](#)

Athabasca University reserves the right to amend course outlines occasionally and without notice. Courses offered by other delivery methods may vary from their individualized study counterparts.

Opened in Revision 3, November 29, 2022

Updated January 27, 2025

View **previous revision** 
