





Computer Science (COMP) 638

Enterprise Modeling (Revision 4)

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: None

Precluded: None

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

Notes:

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**  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. Students registered in this course will

NOT be allowed to apply for an extension due to the nature of the course activities.

Instructor: **Dr. Qing (Ching) Tan**

Overview

The goal of enterprise modeling (EM) is to provide a computational representation of the structure, activities, processes, information, resources, people, behavior, goals, and constraints of an enterprise, whether it is in business, government, or any other organization. The role of a model is to improve the design, analysis, and operation of an enterprise. EM can help users to better understand and explain the enterprise, simulate and predict its performances under different scenarios, and operate and control the enterprise to achieve its best possible performance. EM can also be used to determine the impact of change on all parts of the enterprise.

COMP 638 provides the knowledge essential to every industrial engineer and postgraduate student to meet industry EM requirements. Beginning with basic definitions and principles, the course focuses on the most representative EM approaches from the functional, information, resource, and organizational points of view. It introduces enterprise modeling language and tools for business process representation and reengineering. It concludes with a look at advanced EM research issues.

Outline

- Unit 1: Introduction to Enterprise Modeling
- Unit 2: Aspects of Enterprise Modeling
- Unit 3: Enterprise Modeling Language and Tools
- Unit 4: Enterprise Case Study
- Unit 5: Enterprise Modeling Research

Learning outcomes

Upon successful completion of this course, the student will be able to



- define the scope of EM.
- outline the principles and processes in EM.
- use the most representative approaches to design, analyze, and model enterprise systems.
- enhance knowledge of EM and gain skills on EM language.
- recognize advanced research issues and the trends in EM and its applications.
- use enterprise tools to represent and model enterprise processes.

Objectives

The main objectives of COMP 638 are to

- introduce the fundamental aspects and basic modeling techniques of EM.
- provide comprehensive and in-depth knowledge of EM principles and methodologies for modeling large, complex, and adaptable enterprise systems.
- lead students into the frontier areas of EM by providing a sufficient foundation to explore enterprise engineering from an information systems perspective.

Evaluation

To **receive credit**  for COMP 638, students must achieve a cumulative course grade of **B- (70 percent)**  or better. The cumulative course grade will be based on the following assessment:

Activity	Weight
Assignment 1: Annotated Bibliography for Units 1 and 2	20%

Activity	Weight
Assignment 2: A Review of Enterprise Modeling Language and Tools	20%
Assignment 3: Case Study (group activity)	20%
Assignment 4: Research Paper, Peer Review, and Presentations (group activity)	40%
Total	100%

Students are expected to engage in online discussion forums. Online presentations are designed to prepare students to present research in their professional lives.

Materials

COMP 638 uses a combination of free, online materials such as research articles from IEEE journals and proceedings, reference manuals, tutorials, software, and videos.

Special Note

Students registered in this course will NOT be allowed to apply for an extension due to the nature of the course activities.

Important links

- › [Future Course Offerings](#) 
- › [Important Dates and Deadlines](#) 
- › [MScIS 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 4, March 9, 2021

Updated October 10, 2024

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