Athabasca
University

Computer Science (COMP) 602

Enterprise Information Management (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:	The ability to program using a high-level programming language would be useful but not essential to complete the course. Students who are concerned about not meeting the prerequisite for this course are encouraged to contact the course coordinator 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.

Instructor: Dr. Jon Dron ⤤

Overview

This is mainly a course about databases, how they fit into an organization, what needs they seek to address and what can be done with them. This is set in the context of understanding the information needs of an organization and exploring how and when such information is needed. The emphasis throughout is not so much on achieving high levels of technical competence in advanced technologies but on being able to manage information in a manner that benefits an organization. In order to illustrate and contextualize such high level concepts and ground them in something more concrete, you will need to come to practical grips with technologies of data modeling (including normalization), the SQL language, and several practical database management tools and methods. It is ideally suited to the hybrid manager, able to communicate with and understand the needs of both technologists and the end-users of technologies within an organization.

Outline

The course comes in two parts, both of which will centre around a single scenario that you will choose in the second week of the course. The first part, Foundations, provides a practical introduction to some common technologies and management processes that every information management practitioner should know. It introduces some of the foundations needed to deal with the most common form of database, the relational database management system. In this section we will cover topics such as business information concepts, data modelling, SQL and some of the major database management issues, as well as brief explorations of different kinds of database technology and how they relate

to business and organizational needs. The second part of the course is far more flexible and allows you to research a topic of particular interest to you, applying the basic knowledge and principles developed in the first part of the course. It involves personal research into a wider range of technologies that support information needs within an organization. In this section you will consider more complex, situated and potentially wicked issues, producing a portfolio of reflections, research and a presentation on what you have found. Both parts of the course will be supported by an ongoing reflective learning diary which plays multiple roles as part of the learning process and as an assessable set of outputs of the course.

- Week 1: Introduction

- Week 2: Data Modeling: Basics

- Week 3: Data Modeling: Diagramming

- Week 4: Data Modeling: Normalization

- Week 5: SQL

- Week 6: Management: Performance management and capacity planning

- Week 7: Management: Security and Fault Management

- Week 8: Beyond the RDBMS: Web and Cloud Issues

- Week 9: Beyond the RDBMS: no SQL

- Week 10-13: Personal Research Project Initiation

- Week 13: Presentations and portfolio assembly

Learning outcomes

At the end of this course, successful students will have presented evidence that they are able to

- analyze business data needs and requirements for data-driven systems

- apply appropriate methodologies to the design of data-driven systems

- install and manage a database management system

- write queries to retrieve, update and insert data using a database management system in accordance with business needs

- create and implement effective security policies and procedures to fit business needs and address potential threats

- apply methods of data optimization and performance improvement to address business data needs

- manage faults and use fault-prevention techniques in a database management system

- argue the strengths and weaknesses of different approaches to data management

- solve problems in technology, technique and process relating to database management and design

- independently and reflectively research issues, technologies, processes and tools in information management

- critically evaluate information and data technologies in the context of organizational needs

- be a reflective practitioner in the information management field

Evaluation

To receive credit for COMP 602, you must achieve a cumulative course grade of B- (70 percent) or better, and must achieve an average grade of at least 60% on the assignments. Your cumulative course grade will be based on the following assessment.

Activity	Weight
TMA 1 - Foundations Portfolio	60%
TMA 2 - Research Project Portfolio	40%
Total	**100%**

Materials

Main Readings

This content is based on a growing shared collection of resources that are provided by the tutor and students/former students of the course through a

social bookmarking system. As a result, content is fluid and ever-changing. The mix includes academic papers, online tools, and primary resources

Special Course Features

This is a read/write course to which all students are expected to contribute collaboratively (working together) as well as cooperatively (working individually but allowing others to benefit from the results).

The course requires engagement with others within the course and significant sharing of work produced, some of which is optional, some of which is required.

Optionally, students may engage on external sites. While guidelines and principles are provided to make this as safe as possible, such sites are beyond the control of the University.

Special Instructional Features

In keeping with the read/write ethos of the course, course members will contribute to the content, which will in some cases build for future cohorts and may utilize the work of others on previous cohorts. Students are therefore requested to leave work done on this course for the benefit of later students. The assessment is portfolio based and requires students to display evidence of having met the learning outcomes, which may be achieved in many different ways depending on interests and needs. Social software is used throughout to assist in the development of the learning community.

Important links

> **Future Course Offerings** ⬀

> **Important Dates and Deadlines** ⬀

> **MSc IS Contact Information** ⬀

Opened in Revision 3, March 11, 2012

Updated January 27, 2025