SUPPLY CHAIN AND BUSINESS TECHNOLOGY MANAGEMENT

Faculty

Professor and Chair of the Department
RUSTAM VAHIDOV, PhD Georgia State University

Professors
CLARENCE BAYNE, PhD McGill University
MERAL BÜYÜKKURT, PhD Indiana University
ANNE-MARIE CROTEAU, PhD Université Laval
DALE DOREEN, PhD University of Alabama
JAMSHID ETEZADI-AMOLI, PhD University of Toronto
DENNIS KIRA, PhD University of British Columbia
SURESH KUMAR GOYAL, MEng University of Strathclyde
GREGORY E. KERSTEN, PhD Warsaw School of Economics
TAK KWAN MAK, PhD University of Western Ontario
ANNE BEAUDRY, PhD HEC Montréal
SATYAVEER CHAUHAN, PhD University of Metz
CHITUANYA OKOLI, PhD Louisiana State University
RAAFAT SAADE, PhD Concordia University

Associate Professors
ANNE BEAUDRY, PhD HEC Montréal
SATYAVEER CHAUHAN, PhD University of Metz
CHITUANYA OKOLI, PhD Louisiana State University
RAAFAT SAADE, PhD Concordia University

Assistant Professors
XIAO HUANG, PhD Marshall School of Business, University of Southern California
NAVNEET VIDYARTHI, PhD University of Waterloo

Lecturer
RAUL VALVERDE, PhD University of Southern Queensland

For the complete list of faculty members, please consult the Department website.

Location

Sir George Williams Campus
MB Building, Room: 012-115
514-848-2424, ext. 2982

Department Objectives

The Department of Supply Chain and Business Technology Management prepares students with an integrated set of decision-making skills to meet the organizational and managerial needs of the business world.

The Major in Business Technology Management aims to equip students with knowledge and skills in information and communication technology, business process analysis, and project management. It prepares graduates for careers in various business technology areas such as information systems analysis and design, database administration, as well as management of information technology.

The Major in Supply Chain Operations Management aims to provide the knowledge and skills needed for planning and execution of end-to-end supply chains. It provides students with sufficient academic, technical and professional foundations that will enable them to pursue a challenging and rewarding career that covers planning, procurement, manufacturing, services, transportation, logistics and distribution, among others.

The Minor in Data Intelligence provides a knowledge base to complement the student’s program at the John Molson School of Business. With training in data modelling, forecasting and data mining, students learn to build models for analyzing business problems that help organizations avoid risk and exploit opportunities.
Programs

24 Major in Supply Chain Operations Management
21 SCOM 361, 363, 372, 374, 492, 498; BSTA 378
3 Chosen from BTM 382, 430, 480; SCOM 491

12 Minor in Supply Chain Operations Management
12 SCOM 361, 363, 372, 374

24 Major in Business Technology Management
18 BTM 380, 382, 480, 481, 495, 496
6 Chosen from BTM 387, 395, 430

12 Minor in Business Technology Management
12 BTM 380, 382, 481, 495

12 Minor in Data Intelligence
12 BSTA 378, 445, 477, 478

Business Technology Management/Supply Chain Operations Management Co-operative Programs

Director
RAUL VALVERDE, ETA Lecturer
514-848-2424, ext. 2968

The Department of Supply Chain and Business Technology Management offers two co-operative programs for students who are enrolled in the BComm program: Business Technology Management – BTM (for students majoring in BTM), and Supply Chain Operations Management – SCOM (for students majoring in SCOM). The academic content of each co-op program is identical to that of the regular program, but three work terms are interspersed with six study terms. Students are supervised individually and must meet the requirements specified by the John Molson School of Business and the Institute for Co-operative Education in order to continue their studies in the co-op format. Liaison between the student, the employers, and the Institute for Co-operative Education is provided by the co-op academic director and the co-op committee. Please refer to §24 of this Calendar for a full description of the co-operative format of the program.

Courses

BUSINESS STATISTICS

BSTA 378 Statistical Models for Data Analysis (3 credits)
Prerequisite: COMM 215. This course introduces and examines the role of contemporary statistical methods in improving business and industrial processes. The methodologies selected for discussion represent those that are most extensively used in contemporary business studies and analyses. The topics covered include modern statistical thinking, linear regression analysis, logistic regression, and experimental methods in product and process designs. The course involves mostly analyses of real-life data using statistical software packages. The understanding of the rationale of the methodologies introduced is also emphasized. NOTE: Students who have received credit for DESC 376 or 378 may not take this course for credit.

BSTA 445 Statistical Software for Data Management and Analysis (3 credits)
Prerequisite: COMM 215 or equivalent. This course presents the principles and techniques of widely used statistical software systems, such as SAS, for data management (information storage and retrieval), data modification, file handling, and statistical analysis and reporting. The course covers special features such as graphics, macro languages, software and/or library interfacing and the basics of data mining. Classes are to be held in computer labs and half of the time is devoted to lab work. NOTE: Students who have received credit for DESC 445 may not take this course for credit.

BSTA 477 Managerial Forecasting (3 credits)
Prerequisite: COMM 215 or equivalent. Reliable managerial forecasts of business variables must often be obtained against a background of structural changes in markets. This course focuses on the theory and applications of the most widely used methods of forecasting including decomposition methods, exponential smoothing, and the Box-Jenkins (ARIMA Building) techniques for non-seasonal and seasonal modelling. Recent approaches in forecasting such as artificial neural networks are also introduced. Business and economic databases are analyzed using statistical software packages in both class and project assignments. NOTE A/See §200.2
NOTE: Students who have received credit for DESC 477 may not take this course for credit.
BSTA 478  Data Mining Techniques (3 credits)
Prerequisite: COMM 215. The course covers essential ideas and techniques for extracting information from large amounts of data. It discusses both supervised and unsupervised methods, and covers topics such as dimension reduction, multiple regression, logistic regression, discriminant analysis, classification and regression trees, neural networks, association rules, cluster analysis and multi-dimensional scaling. Illustrations of the concepts and methods are given, and students gain practical experience in data mining with the use of popular data mining software.
NOTE: Students who have received credit for DESC 478 may not take this course for credit.

BSTA 490  Special Topics in Business Statistics (3 credits)
Prerequisite: Permission of the Department. This course allows for more intensive examination of one or more topics in business statistics.

BUSINESS TECHNOLOGY MANAGEMENT

BTM 200  Fundamentals of Information Technology (3 credits)
This course covers topics in information and communications technologies, including software, hardware, the Internet, and office productivity applications. Students learn about the technologies and their use, as well as acquire hands-on experience in key software applications.
NOTE: Students who have received credit or exemption for DESC 200, INTE 290, or for this topic under a COMM 499 number or equivalent, may not take this course for credit.
NOTE: Students enrolled in Mathematics and Statistics programs may not take this course for credit.

BTM 380  Introduction to Business Application Development (3 credits)
Prerequisite: COMM 226, 301. This course introduces students to the fundamentals of developing computer applications. Students gain knowledge and learn techniques necessary for building business applications, based on the modern object-oriented development paradigm. Students learn the principles of object-oriented programming using a contemporary language and integrated development environment. Topics include control structures, objects, classes, inheritance, class hierarchies, and polymorphism. Using appropriate business examples, this course enables students to solve business problems using the fundamentals of object-oriented programming.
NOTE: Students who have received credit for DESC 381 or 391 may not take this course for credit.

BTM 382  Database Management (3 credits)
Prerequisite: COMM 226 or 301. This course provides a comprehensive foundation for designing, building, and working with databases, enabling students to understand and use commercially available database products effectively. The course examines different models of representing data with emphasis on the relational model. Topics include data modelling, database design, queries, transaction management, implementation issues, and an overview of distributed database management systems, data warehouses, databases in electronic commerce, and database administration. Examples are drawn from various functional and operational areas including enterprise and supply chain operations, management, and planning.
NOTE: Students who have received credit for DESC 382 may not take this course for credit.

BTM 387  E-Business (3 credits)
Prerequisite: COMM 226 or 301. This course covers the essentials of how e-business is conducted and managed. Its major opportunities, limitations, risks, and issues for individuals, organizations, and society are discussed. Topics covered include e-business architectures, models, technologies, and privacy and security issues. Applications such as e-learning, e-government, and telemedicine are also discussed.
NOTE: Students who have received credit for DESC 387 may not take this course for credit.

BTM 395  Internet Programming (3 credits)
Prerequisite: BTM 380. This course covers the concepts and tools used in programming of business systems that require Internet connectivity. Methods and technologies used to build web-based systems including e-business, e-learning, and online meeting places are discussed. The course gives students the opportunity to learn about and use such technologies as scripting, interactive charting, and database connectivity.
NOTE: Students who have received credit for DESC 395 may not take this course for credit.

BTM 430  Enterprise Resource Planning and Information Technology Integration (3 credits)
Prerequisite: COMM 225, 226 or 301. This course responds to the demand for the integration of technological and business resources by providing the student with opportunities to understand and analyze practical business problems and processes via the use of enterprise resource planning (ERP) applications. Topics include analysis and design for information technology integration, implementation strategies, and use of ERP for process integration. Technological solutions examined include ERP software, middleware applications, and the use of web services.
NOTE: Students who have received credit for DESC 389, 420 or 430 may not take this course for credit.

BTM 480  Project Management (3 credits)
Prerequisite: COMM 225 or 226 or 301. This course covers the theory, tools, and techniques associated with the management of projects including the use of project management software. Cases from various business contexts are used to illustrate essential
and methodologies of the object-oriented approach to information system design. The unified modelling language is used to
supply chain logistics.

resource planning modules are introduced and logistics games are played to illustrate the integration and coordination issues in
warehousing, transportation management, third party logistics, reverse logistics and issues in global logistics. Relevant enterprise
supply chain. The topics covered include fundamentals of customer relationship management, distribution channels, purchasing,
management, aggregate planning, scheduling, and inventory management decisions. Supplier evaluation/development practices
in this course. Mathematical modelling is emphasized in dealing with facility location, capacity planning, demand and supply
allocation problems, integer linear programming, network models, multi-criteria decision problems, and waiting line models.
The emphasis is on modelling issues and interpretation of solution through the use of optimization software packages.

NOTE: Students who have received credit for DESC 363 may not take this course for credit.

SCOM 361 Management Science Models for Operations Management (3 credits)
Prerequisite: COMM 225. This course deals with application of management science models to operations management problems
in allocation of scarce human, physical, and financial resources. Among the topics covered are transportation, assignment and
trans-shipment problems, integer linear programming, network models, multi-criteria decision problems, and waiting line models.
The emphasis is on modelling issues and interpretation of solution through the use of optimization software packages.

NOTE: Students who have received credit for DESC 361 may not take this course for credit.

SCOM 363 Product Design and Business Process Re-Engineering (3 credits)
Prerequisite: COMM 225 previously or concurrently. This course combines the product/service design issues and the continuous
improvement efforts required throughout the life cycle of products and services. The topics covered in this context include essentials
of creativity, organizational and operational issues in product/service design, mass customization, business process re-engineering,
layout, and quality management. Cases and enterprise resource planning applications are studied to provide a unifying theme in
terms of organizational change, supply chain re-engineering and integration aspects.

NOTE: Students who have received credit for DESC 363 may not take this course for credit.

SCOM 371 Supply Chain Planning and Control (3 credits)
Prerequisite: SCOM 361 or DESC 361. Production/service planning and control issues in managing supply chains are covered in
this course. Mathematical modelling is emphasized in dealing with facility location, capacity planning, demand and supply
management, aggregate planning, scheduling, and inventory management decisions. Supplier evaluation/development practices
and outsourcing are studied. Relevant enterprise resource planning modules with advanced planning and scheduling functionalities
are introduced to illustrate the integration and coordination issues in supply chain planning and control.

NOTE: Students who have received credit for DESC 372 may not take this course for credit.

SCOM 374 Supply Chain Logistics (3 credits)
Prerequisite: COMM 225. This course covers the tools and techniques associated with movement of materials throughout the
supply chain. The topics covered include fundamentals of customer relationship management, distribution channels, purchasing,
warehousing, transportation management, third part logistics, reverse logistics and issues in global logistics. Relevant enterprise
resource planning modules are introduced and logistics games are played to illustrate the integration and coordination issues in
supply chain logistics.

NOTE: Students who have received credit for DESC 374 may not take this course for credit.

SUPPLY CHAIN OPERATIONS MANAGEMENT

SCOM 361 Management Science Models for Operations Management (3 credits)
Prerequisite: COMM 225. This course deals with application of management science models to operations management problems
in allocation of scarce human, physical, and financial resources. Among the topics covered are transportation, assignment and
trans-shipment problems, integer linear programming, network models, multi-criteria decision problems, and waiting line models.
The emphasis is on modelling issues and interpretation of solution through the use of optimization software packages.

NOTE: Students who have received credit for DESC 361 may not take this course for credit.

SCOM 363 Product Design and Business Process Re-Engineering (3 credits)
Prerequisite: COMM 225 previously or concurrently. This course combines the product/service design issues and the continuous
improvement efforts required throughout the life cycle of products and services. The topics covered in this context include essentials
of creativity, organizational and operational issues in product/service design, mass customization, business process re-engineering,
layout, and quality management. Cases and enterprise resource planning applications are studied to provide a unifying theme in
terms of organizational change, supply chain re-engineering and integration aspects.

NOTE: Students who have received credit for DESC 363 may not take this course for credit.

SCOM 371 Supply Chain Planning and Control (3 credits)
Prerequisite: SCOM 361 or DESC 361. Production/service planning and control issues in managing supply chains are covered in
this course. Mathematical modelling is emphasized in dealing with facility location, capacity planning, demand and supply
management, aggregate planning, scheduling, and inventory management decisions. Supplier evaluation/development practices
and outsourcing are studied. Relevant enterprise resource planning modules with advanced planning and scheduling functionalities
are introduced to illustrate the integration and coordination issues in supply chain planning and control.

NOTE: Students who have received credit for DESC 372 may not take this course for credit.

SCOM 374 Supply Chain Logistics (3 credits)
Prerequisite: COMM 225. This course covers the tools and techniques associated with movement of materials throughout the
supply chain. The topics covered include fundamentals of customer relationship management, distribution channels, purchasing,
warehousing, transportation management, third part logistics, reverse logistics and issues in global logistics. Relevant enterprise
resource planning modules are introduced and logistics games are played to illustrate the integration and coordination issues in
supply chain logistics.

NOTE: Students who have received credit for DESC 374 may not take this course for credit.
SCOM 490  Special Topics in Supply Chain Operations Management (3 credits)
Prerequisite: Permission of the Department. This course allows for more intensive examination of one or more topics in supply chain operations management.

SCOM 491  Supply Chain Risk Management (3 credits)
Prerequisite: COMM 225. This course covers fundamental quantitative and qualitative tools of risk management used to mitigate against supply chain risks in the context of supply and demand management strategies. Globalization initiatives in trade and money markets and increased worldwide security concerns have exposed supply chains to ever-increasing risks. Consequently, risk management along the supply chain has become an important function in order to decrease the level of vulnerability for the stakeholders. Topics include review of supply chain fundamentals and principles, risk identification and management, trade-offs in risk management, supply chain strategies for robustness, and scenario planning. Various case studies are used to highlight design and implementation issues.
NOTE: Students who have received credit for DESC 491 may not take this course for credit.

SCOM 492  Supply Chain Simulation (3 credits)
Prerequisite: BSTA 378; SCOM 372 or DESC 372 or SCOM 374 or DESC 374 previously or concurrently. This course focuses on simulating various supply chain scenarios using supply chain simulation package(s). Modelling issues in simulation are covered. Experimental design and analysis techniques are used in designing scenarios and analyzing the outcomes, which are also studied from a wider strategic business perspective.
NOTE: Students who have received credit for DESC 492 may not take this course for credit.

SCOM 498  Supply Chain Project (3 credits)
Prerequisite: SCOM 372 or DESC 372 or SCOM 374 or DESC 374 previously or concurrently. This course involves a project carried out in a real-life setting. Guest speakers from industry are invited to present supply chain issues in practice. Various tools and techniques of supply chain operations management are used in identifying and analyzing supply chain problems. Improvements and solutions are designed along with appropriate performance metrics.
NOTE: Students who have received credit for DESC 498 may not take this course for credit.