



CANADA COLLEGE

Accounting And Management

ACC 1100. FINANCIAL ACCOUNTING.

(formerly MG 1100) Cat. I

This course provides a tool for business communication, as accounting is an important language of business. Students are introduced to the accounting process, its underlying concepts, and the techniques of preparing and analyzing financial statements. Students are also introduced to issues in accounting for assets, liabilities, and stockholders' equity. The course demonstrates the employment of accounting data by users outside the firm, and the application of accounting numbers in financial analyses and market decisions. Students may not receive credit for both MG 1100 and ACC 1100.

ACC 2101. MANAGEMENT ACCOUNTING.

(formerly MG 2101) Cat. I

This course is intended to familiarize the student with the wide variety of ways in which accounting data are used by management as a tool for the attainment of predetermined organizational objectives. The emphasis of the course is on the application of accounting data, rather than on its preparation, and particular attention is given to the use of financial data both in controlling day-to-day activities and planning future operations. Principal topics include: master budgets, cost analysis and classification systems, cost-volume-profit analysis, standard cost accounting and an introduction to capital budgeting. Recommended background: ACC 1100. Students may not receive credit for both MG 2101 and ACC 2101

ACC 4151. COST ACCOUNTING.

(formerly MG 4151) Cat. II

This course is designed to give basic understanding and skill in the area of cost accumulation to anyone concerned with recording the expenses associated with a given activity or project. Cost accounting provides data for three major purposes: 1) planning and controlling routine operations, 2) making non-routine decisions, and 3) inventory valuation and income determination. All three are important, but the course stresses the first two as they relate to project activity. The goal of the course is to put cost accounting in focus as a highly useful technique in any decision-making situation where expense levels are important. While some attention is directed toward accounting systems and

procedures for data accumulation, stress is given to the theme that cost accounting is a vital and dynamic tool for problem-solving. Recommended background: ACC 1100. Students may not receive credit for both MG 4151 and ACC 4151. This course will be offered in 2005-06 and in alternating years thereafter.

Business (BUS)

BUS 1900. INTRODUCTION TO BUSINESS IN AN INTERNATIONAL ENVIRONMENT.

(formerly MG 1900) Cat. I

This course focuses on the operation of a company conducting business in an international environment. It addresses cultural differences and their importance in international trade and in such business functions as operations, human resources, marketing and accounting. BUS 1900 is an appropriate course for all WPI students regardless of a major. Students may receive credit for only one of the following: MG 1050, MG 1900 and BUS 1900.

BUS 2950. BUSINESS LAW AND ETHICS.

(formerly MG 2950) Cat. I

Imparts an understanding of how law, ethics, and public policy affect modern business. Approximately two thirds of the term is devoted to coverage of fundamental substantive areas of business law (torts, contracts, property, business organizations), public policies (regulatory and promotional), and approaches to ethical analysis for decision-making. Particular attention is paid to technology-based enterprises (e.g. intellectual property, environmental regulation). The concluding portion of the course involves all students in examination of current cases in which law, ethics and human, societal and global concerns intersect with business decision-making today. Students may not receive credit for both MG 2950 and BUS 2950.

Entrepreneurship (ETR)

ETR 3910. RECOGNIZING AND EVALUATING NEW VENTURE OPPORTUNITIES.

(formerly MG 3910) Cat. I

This course focuses on identifying ideas for new businesses and learning how to evaluate those ideas to determine if they are feasible. Using various opportunity recognition models, students will be expected to come up with a business idea and conduct an analysis of the feasibility of the venture and its fit with the founder. Recommended background for this course consists of OIE 2850 and two of the following: ACC 1100, BUS 2950, OIE 3400, MKT 3600, or MIS 3700. Students may receive credit for only one of the following: MG 391X, MG 3910 or ETR 3910.

ETR 3920. PLANNING AND LAUNCHING NEW VENTURES.

(formerly MG 3920) Cat. I

This course focuses on business plan development, especially the financial aspects of the plan. The intent is that students will use a feasibility analysis, such as the one completed

in ETR 3910, and turn that into a complete business plan. Additionally, students will learn about seed capital, venture, and other means of financing new ventures. Recommended background for this course consists of ETR 3910, OIE 2850 and two of the following: ACC 1100, BUS 2950, OIE 3400, MKT 3600, or MIS 3700. Students may receive credit for only one of the following: ID 1050, MG 3920, or ETR 3920.

ETR 4930. GROWING AND MANAGING NEW VENTURES.

(formerly MG 4930) Cat. I

One of the most troublesome aspects of entrepreneurship is running the business once it is started. This course focuses on techniques to grow the new venture and how to manage both the growth and operations. Considerable emphasis will be placed on expanding existing markets, finding new markets, anticipating the next generation of products, and managing cash flow. This course is the capstone course for both the Entrepreneurship Minor and the Management Minor. Recommended background for this course consists of five of the following: ACC 1100, ACC 2101, BUS 1900, BUS 2950, ETR 3910, ETR 3920, MIS 3700, MKT 3600, OBC 2300, OIE 2850, OIE 3400. Students may receive credit for only one of the following: MG 3960, MG 4930, or ETR 4930.

Finance (FIN)

FIN 1250. PERSONAL FINANCE.

(formerly MG 1250) Cat. I

This course is designed to help the student make well-informed judgments when faced with personal financial decisions. Such decisions are growing in number and complexity, and both individuals and families need a considerable degree of financial expertise in order to utilize optimally their limited incomes. Principal topics include: insurance (medical, life, automobile and disability), consumer credit, estate planning, taxation, personal investments (real estate, securities, etc.), social security legislation and personal financial planning. Students may not receive credit for both MG 1250 and FIN 1250.

FIN 2200. FINANCIAL MANAGEMENT.

(formerly MG 2200) Cat. I

The financial and competitive status of a company at any given point in time can usually be attributed to prior management decisions. In this course, the student will learn how to use several financial models that together, serve as a sound theoretical framework for analyzing the three types of financial decisions faced by the financial manager. These are 1. investing decisions, 2. financing decisions, and 3. working capital management decisions. The impact of managerial decisions on the financial statements is emphasized. In addition, ethical conduct and global issues relating to the core concepts in the course are explored. Recommended background: ACC 1100 and MA 2611. Students may receive credit for only one of the following: MG/200, MG 2200, or FIN 2200.

FIN 2250. FINANCIAL SYSTEM OF THE UNITED STATES.

(formerly MG 2250) Cat. I

An analysis of how the financial system of the United States has developed and contributes to the achievement of broad national economic goals as high national income,

satisfactory economic growth, stable prices, and equilibrium in balance of payments with other countries. Emphasis is placed on the theory of the supply and demand for short-term money and long-term capital, and the resultant effect on interest rates. Primary concentration on the sources and uses of funds of the major non-bank financial institutions, such as insurance companies, pension funds, mutual funds, finance companies, savings and loan banks and mutual savings banks. A discussion of the reforms of financial institutions, and of money and capital markets to more efficiently allocate the scarce resources of the country. This course is intended to serve the business major and other students interested in understanding the role of financial intermediaries in the United States economy. Suggested background: some knowledge of accounting and economics will be helpful in taking this course. Students may not receive credit for both MG 2250 and FIN 2250.

FIN 2260. INVESTMENT AND SECURITY ANALYSIS.

(formerly MG 2260) Cat. I

This course is designed to provide an introduction to the language and methodology of security analysis. It is intended to serve two different groups of students: those interested in the subject from the viewpoint of intelligent management of their own portfolios, and those students who have a possible career interest in some facet of the securities industry. Principal topics include: institutional structure and language of the securities market; investment research; alternative investment opportunities; financial statement analysis; fundamental evaluation of common stocks, preferred stocks and bonds; technical analysis; and business cycle analysis. Recommended background: ACC 1100 and SS 1120. Students may not receive credit for both MG 2260 and FIN 2260.

Management Information Systems (MIS)

MIS 3700. INFORMATION SYSTEMS MANAGEMENT.

(formerly MG 3700) Cat. I

This course introduces students to the management of information technology within complex organizations. It covers the range of information technologies employed by business organizations and the manner in which they are deployed. The course places special emphasis on the management of information resources from a user and manager point of view and will help students understand how particular technological arrangements can facilitate achievement of organizational goals. The impact of information technology on management control, organizational structure, individual workers, relationships between organizations, and business transformational will be discussed. Recommended background: ACC 2101 and OBC 2300 or equivalent business background. Students may receive credit for only one of the following: MG 2700, MG 3700, or MIS 3700.

MIS 3720. BUSINESS DATA MANAGEMENT.

(formerly MG/IE 3720) Cat. I

This course introduces students to the theory and practice of database management and the application of database software to implement business information systems that support managerial and operational decision making. Special topics covered include

relational data models, query languages, normalization, locking, concurrency control and recovery. The course covers data administration and the design of data tables for computerized databases. Students will use a commercial database package to design and implement a small business database application. Recommended background: CS 2118 or equivalent knowledge. Students may receive credit for only one of the following: MG 4700, MG 3720, or MIS 3720.

MIS 3740. ORGANIZATIONAL APPLICATIONS OF TELECOMMUNICATIONS.

(formerly MG 3740) Cat. I

Students taking this course will develop an understanding of how organizations can effectively use telecommunications technology to enhance business functionality. Students will analyze the development of organizational communications infrastructures and their use for the development of "virtual" organizational structures and to support globally-distributed organizations. The course will begin with a survey of the concepts and technologies which form the basis of a business telecommunications system and which allow the merging of voice, data and video in an integrated multimedia communications structures. Recommended background: MIS 3700. Students may receive credit for only one of the following: MG 4701, MG 3740, MG/740, or MIS 3740.

MIS 4720. SYSTEMS ANALYSIS AND DESIGN.

(formerly MG/IE 4720) Cat. I

This course integrates students' background in MIS in a one-term project focusing on development of creative solutions to open-ended business and manufacturing problems. The project will utilize systems analysis and design tools such as systems development life cycle, feasibility study, cost-benefit analysis, structured analysis and design. Students will acquire the skills necessary to analyze, develop, implement, and document real-life information systems. Students must be able to organize themselves and the project to complete their work within a seven week term. It is recommended that MIS majors take this course in preparation for their MQP. Recommended background: MIS 3720. Students may receive credit for only one of the following: MG 3750, MG 4720, or MIS 4720.

MIS 4740. E-BUSINESS STRATEGY, ARCHITECTURE AND DESIGN.

(formerly MG/IE 4740) Cat. II

The course focuses on the linkage between organizational strategy and networked information techniques to implement a rich variety of business models in the national and global contexts connecting individuals, businesses, governments, and other organizations to each other. It provides an introduction to ebusiness strategy and the development and architecture of e-business solutions and their technical components. The course will cover how businesses and consumers use the Internet to exchange information and initiate transactions. Both theoretical concepts and practical skills with appropriate development tools will be addressed within the scope of the class. Students will develop a business plan and put that plan into action through development of an ebusiness website using commercially available development tools. Recommended background: CS 1101, CS

1102 or CS 2118 or ability to program in a higher level programming language. This course will be offered 2006-07 and in alternating years thereafter.

MIS 4750. MANAGEMENT OF THE IS FUNCTION.

(formerly MG 4750) Cat. II

This course integrates students' background in management policy and business analysis and addresses the practical problems of developing and running an IS organization. It focuses on the planning and management required to assure systems performance and monitoring, systems reliability and quality change management, backup and recovery, security, new technology assessment and implementation, staffing and staff development. Through case studies and miniprojects students will analyze existing structures in industry IS organizations. Recommended background: MIS 3700. Students may not receive credit for both MG 4750 and MIS 4750. This course will be offered 2005-06 and in alternating years thereafter.

Marketing (MKT)

MKT 3600. MARKETING MANAGEMENT.

(formerly MG/IE 3600) Cat. I

This class is designed to give students a broad overview of diverse topics in marketing management. After this class, students should have a solid understanding of the main concepts and principles of marketing, and be able to apply them to actual business situations. The course demonstrates the application of various social science concepts and methodologies in the marketing context. Topics include: The Marketing Environment, International Marketing, Market Research, Consumer Behavior, Business-to-Business Marketing, Services Marketing, Market Segmentation, New Product Development, Channels, Marketing Communications, Personal Selling, and Pricing. Students may not receive credit for both MG 3600 and MKT 3600.

MKT 3640. MANAGEMENT OF PROCESS AND PRODUCT INNOVATION.

(formerly MG/IE 3640) Cat. I

This course is based on the hypothesis that high performance firms depend on a sustainable pattern of new and innovative processes and products. Successful companies are examined in regard to their strategies for innovation and technology transfer. Technology alliances among industry, universities, and government are considered in order to increase the leverage of the individual firm. Benchmarking and commercialization from research to actualization is discussed through cases and examples. Recommended background: FIN 2200 or OIE 2850. Students may receive credit for only one of the following: MG 3440, MG 3640, or MKT 3640.

MKT 3651. INDUSTRIAL MARKETING.

(formerly MG/IE 3651) Cat. II

Provides an understanding of the industrial marketing process and practices. It presents the latest concepts, tools and techniques for marketing complex products and services to industrial and institutional users. Topics include: product innovation strategies; purchasing management and buyer behavior; major intelligence; pricing strategies and

tactics; developing markets for new industrial products; bid proposals; industrial distribution; managing the industrial sales force; marketing controls. Students may not receive credit for both MG 3651 and MKT 3651. This course will be offered in 2006-07 and in alternating years thereafter.

Operations And Industrial Engineering (OIE)

OIE 2500. MANAGEMENT SCIENCE I: DETERMINISTIC DECISION MODELS.

(formerly MG/IE 2500) Cat. I

This course is designed to provide an introduction to a variety of tools and techniques found useful by modern industrial engineers, operations researchers and managers. These tools are oriented toward the creation and use of mathematical models to assist in managerial decision making in business and other organizations. The models discussed in this course deal with deterministic decision-making problems where there are constraints on available actions. Discussion centers on "classical" methods of optimization and basic methods of linear programming. It is expected that the student will develop an ability to recognize situations in which a given technique is appropriate. Recommended background: knowledge of calculus. Students may receive credit for only one of the following: MG 2500, IE 2500, or OIE 2500.

OIE 2850. ENGINEERING ECONOMICS.

(formerly MG/IE 2850) Cat. I

To aid all engineering students in understanding economics and business constraints on engineering decision making. Topics include evaluation of alternative; the six time-value-of-money factors; present worth, annual cash flow and rate-of-return analysis; incremental analysis; depreciation and income taxes; replacement analysis; inflation; handling probabilistic events; public economy; break-even and minimum cost points; and foreign exchange. Students may receive credit for only one of the following: MG 2850, IE 2850, or OIE 2850.

OIE 3400. PRODUCTION SYSTEM DESIGN.

(formerly MG/IE 3400) Cat. I

This course is an introduction to the planning, analysis and design of production systems. It is designed for students in engineering or management who may wish to assume responsibilities in the production of goods or services. Topics to be covered will include: operations strategy, project management, quality management, process analysis, capacity management, and just-in-time and lean systems. Recommended background: Differential and integral calculus. Students may receive credit for only one of the following: MG 3400, IE 3400, or OIE 3400.

OIE 3401. PRODUCTION PLANNING AND CONTROL.

(formerly MG/IE 3401) Cat. I

This course is an introduction to the planning and control of production systems. Topics include: forecasting, scheduling, material management, and statistical process control. Recommended background: OIE 3400, MA 2611, and differential and integral calculus.

Students may receive credit for only one of the following: MG 3401, IE 3401, or OIE 3401.

OIE 3405. WORK SYSTEMS AND FACILITIES PLANNING.

(formerly MG/IE 3405) Cat. I

This course covers the fundamentals of developing efficient layouts for production and service facilities. Methods analysis, work measurement, material handling and material flow analysis are also covered. Mathematical models and computer tools are used to assist decision-making. Recommended background: OIE 2500 and OIE 3400.

OIE 3420. QUALITY PLANNING, DESIGN AND CONTROL.

(formerly MG/IE 3420) Cat. I

This course focuses on the quality aspects of product design and manufacturing. Topics include: the quality/cost relationship, statistical process control, process capability studies, and design of experiments. Recommended background: OIE 3400 and MA 2612 or consent of the instructor. Students may receive credit for only one of the following: MG 3420, IE 3420, or OIE 3420.

OIE 3450. HUMAN FACTORS ENGINEERING.

(formerly MG/IE 3450) Cat. I

This course examines the human-machine interface in the workplace, concentrating on how workplace design can influence effectiveness and enhance health, safety, and satisfaction. Human sensory, motor, and decision systems are studied, as well as principles for designing visual and auditory displays, control devices and tools, and work spaces. Problems with repetitive and high physical effort tasks, illumination, noise, and atmospheric conditions, along with relevant governmental regulations, are also considered. Students may receive credit for only one of the following: MG 3450, IE 3450, or OIE 3450.

OIE 3460. SIMULATION MODELING AND ANALYSIS.

(formerly MG/IE 3460) Cat. I

This course covers the application of simulation to a variety of managerial problems with examples from operations management, industrial engineering and manufacturing engineering. It introduces the student to the concepts of computer simulation, with an emphasis on the design of a simulation experiment and statistical interpretation of its results. It will discuss simulation of queueing models, inventory and industrial dynamics, and gaming situations. The role and use of computers for the execution of simulations will also be highlighted. A commercial simulation language such as SIMAN will be used to solve problems from the manufacturing and service industries. Recommended background: CS 1101, or CS 1102, and MA 2612. Students may receive credit for only one of the following: MG 3460, IE 3460, MG 3760, or OIE 3460.

OIE 3501. MANAGEMENT SCIENCE II: RISK ANALYSIS.

(formerly MG/IE 3501) Cat. I

This course provides coverage in decision analysis. Decision analysis is a technology that assists decision makers in quantifying consideration of complexity and uncertainty in

problems of choice. The course applies decision analysis to problems in risk assessment and risk evaluation. Decision making in risk analysis is examined across a wide set of management engineering problems including case studies in environmental risk, product liability, facilities design, and R and D management. The course is intended to be highly integrative with respect to risk analysis including issues such as business ethics and risk communication. Suggested background: knowledge of calculus and introductory probability and statistics. Students may receive credit for only one of the following: MG 3501, IE 3501, or OIE 3501

OIE 4410. CASE STUDIES IN INDUSTRIAL ENGINEERING.

(formerly MG/IE 4410) Cat. I

A number of in-depth case studies in operations and industrial engineering are analyzed. The cases will cover both manufacturing and service systems ranging from production system design to operations planning and control. Recommended background: OIE 3400, OIE 3401, OIE 2500 and OIE 3501. Students may receive credit for only one of the following: MG 3410, IE 3410, MG 4410, IE 4410, or OIE 4410.

OIE 4460. GLOBAL PLANNING AND LOGISTICS.

(formerly MG/IE 4460) Cat. II

This case-based course will examine methods and strategies for managing and controlling material movement, with particular emphasis on international operations, from the purchase of production materials to the control of work in process to the distribution of the finished product. Strategies that will be discussed include the design of international distribution networks, the use of third-party logistics providers, and the creation of links between logistic systems and marketing to create competitive advantage. The course will also explore tactical issues that must be managed to pursue a logistics strategy successfully, including choices regarding means of transportation, packaging, and inventory policies. Underlying themes of the course will be the use of information technologies (such as electronic data interchange and bar coding) and mathematical models to support logistics decision-making. Recommended background: OIE 3400 and either FIN 2200 or OIE 2850 or consent of professor. Students may receive credit for only one of the following: MG 4460, IE 4460, or OIE 4460. This course will be offered 2005-06 and in alternating years thereafter.

Organizational Behavior And Change (OBC)

OBC 2300. ORGANIZATIONAL SCIENCE-FOUNDATION.

(formerly MG/IE 2300) Cat. I

This first course in organizational science provides the foundation for an understanding of organization and management. It is a survey of the social science of work, describing the basic knowledge and processes required of managers, including: motivation, communication, supervision, leadership, the group processes of decision making, conflict, work and organizational design, and reconciliation of the goals of individuals and organizations. Lecture, video presentation, group discussion and group mini-projects will be employed to introduce and illustrate the basic elements of management. Students may receive credit for only one of the following: MG 2300, IE 2300, or OBC 2300.

OBC 3351. ORGANIZATIONAL SCIENCE-MANAGEMENT OF CHANGE.

(formerly MG/IE 3351) Cat. I

This second course in organizational science provides experience in applying theories of organization and management to the analysis and implementation of organizational change. The course utilizes readings, experiential activities, and case studies of change management in technology-based organizations to provide a conceptual understanding as well as practical knowledge of the change management process. The course is designed as a seminar and workshop. Recommended background: OBC 2300 or consent of the professor. Students may receive credit for only one or OBC1.

OBC 4364. HUMAN RESOURCE MANAGEMENT.

(formerly MG 4364) Cat. II

This course in applied organizational sciences introduces concepts and techniques of human resource management. It provides experience in the solution of a variety of human resource problems through classroom exercises and organizational cases, introducing and building upon the basic concepts and techniques of industrial and organizational psychology. The course focuses on changing labor markets, employee recruitment and selection, performance appraisal and compensation, job evaluation, training and development, job design, labor relations, diversity and gender issues in the workplace, government involvement in human resource issues, job satisfaction, and motivation to work. Recommended background: OBC 2300 or agreement of the professor. Students may not receive credit for both MG 4364 and OBC 4364. This course will be offered in 2006-07 and in alternating years thereafter.

OBC 4365. LEADERSHIP IN GROUPS AND ORGANIZATIONS.

(formerly MG 4365) Cat. I

This course considers the essence of leadership in groups and organizations. Specifically, it examines the personal, interpersonal, group, and contextual factors which affect formal and emergent leadership in groups and organizations. It also examines the effectiveness of various leadership approaches and styles under various conditions. Using case studies, simulations, group projects, and selected readings on leadership in groups and organizations, this course will give students an opportunity to assess and develop their own leadership talents. Recommended background: OBC 2300 or consent of the professor. OBC 4365. IS4-MANAGEMENT SEMINAR*: Current developments in management seminars will be organized periodically and announced in the Undergraduate Catalog. No more than 1/3 unit credit will be available for this type #4 IS/P. *Initials of instructors in charge will appear in Undergraduate Catalog in addition to a description of seminar to be offered.

MANAGING CASH FLOW

This course provides a concise overview of concepts related to the management of cash flows. Some of the principles taught in this course include measurement of cash flow cycles, cash flow forecasting, and short-term financing. The purpose of this course is to introduce principles and practices related to managing cash flows. Course Level:

Beginner to Intermediate - No prior knowledge of cash flow management is required although some understanding of financial management can be helpful. Recommended for 2.0 hours of CPE. Course Method: Inter-active self study with audio clips, self-grading exam, and certificate of completion.

THE MANAGEMENT OF CAPITAL

This course provides an overview of concepts related to how to manage the capital of an organization. Course content includes the calculation of cost of capital, how to select the right mix of capital, and how financial markets work in raising capital. Course Level: Beginner to Intermediate - No prior knowledge of capital management is required although some understanding of capital management will be helpful. Recommended for 2.0 hours of CPE. Course Method: Inter-active self study with audio clips, self-grading exam, and certificate of completion.

EFFECTIVE PROJECT COST MANAGEMENT

The financial management of projects is essential. Proper estimating at the project definition and approval stage, budgeting, resource costing and allocation and control during the project are vital to its success. This course module will lead you through the fundamentals of cost management and control. It will give you the tools required to perform this most important function.

PROJECT QUALITY MANAGEMENT

Quality is achieved through planning, directing and implementing actions that are consistent with the concept of doing what you documented you would do. A dedicated effort of setting standards for the work, understanding the customer's requirements and implementing the requirements in all documentation and actions is needed to infuse quality into projects. Using the tools of quality management to monitor, evaluate, and assess the processes while conducting continuous improvement in the processes is the foundation for achieving quality. This module will review the Quality Management process, introducing tools and techniques for project managers.