

**PROGRAMS AND
WORK TERM
SKILLS & ABILITIES
OF OUR STUDENTS**

INSTITUTE FOR CO-OPERATIVE EDUCATION

PROGRAMS AND WORK TERM SKILLS & ABILITIES OF OUR STUDENTS

JOHN MOLSON SCHOOL OF BUSINESS

Accountancy

Programs with related responsibilities include: Economics, Finance, Mathematics, Statistics

- Bookkeeping
- Accounts payable and receivable
- Cost accounting dossiers
- Internal and external audits
- Taxation of Canadian Non-residents
- Sales tax reporting
- Internal control design and testing
- Financial statements
- Personal and corporate tax files

Finance

Programs with related responsibilities include: Accountancy, Economics, International Business, Mathematics, MBA, Statistics

- Real estate investments and analysis
- Capital structure and leverage analysis
- Capital budgeting analysis
- Bond and stock valuations
- Options and Futures & Foreign exchange
- Capital asset pricing model / Arbitrage model
- Mergers & Acquisitions
- Portfolio Investment Analysis / Portfolio Management
- Working capital management

Human Resource Management

Programs with related responsibilities include: Anthropology, International Business, MBA, Sociology

- Recruitment, selection and onboarding
- Survey design, best practices and pay equity
- Training and development
- Compensation and benefits
- Industrial relations
- Designing job descriptions
- Talent and change management
- Strategic human resource practices
- Performance management

Supply Chain Operations Management

Programs with related responsibilities include: Finance, Industrial Engineering, Mathematics, MBA, Mechanical Engineering, Physics, Statistics

- Development of project milestone deliverables
- Production operations management

- Procurement
- Process controls and improvements
- Forecasting + demand planning
- Supply Chain Analytics
- Supply Chain Risk Management
- Logistics
- Supply Chain Control and materials Planning

International Business

Programs with related responsibilities include: Anthropology, Economics, Finance, Marketing, MBA, Political Science, Statistics, Sociology

- International market research and analysis
- International communication and relations
- Global social media
- Verbal and written translations
- Implications and repercussions of international policy change
- Audits of international standards procedures and implementation

Business Technology Management

Programs with related responsibilities include: Computer Engineering, Computer Science, MASc Information Systems Security Software Engineering, MASc Quality Systems Engineering, MBA

- Designing and developing database systems
- Management of IT projects
- IT Audits
- Database management
- Information Systems Risk Management
- IT strategic planning and technological transformation
- Defining IS for R & D documentation
- ERP Systems Implementation and Analysis
- Business Systems Analysis

Marketing

Programs with related responsibilities include: Anthropology, Computation Arts, Design, Economics, International Business, Journalism, Mathematics, MBA, Sociology, Statistics

- Digital and social media campaign creation
- Marketing research (qualitative / quantitative)
- Event and trade show planning
- Copywriting for online and offline applications
- Product management / Sales support
- Public relations planning and execution
- Presentation design and production
- Managing internal communication programs
- Market analysis

Master's in Business Administration (MBA)

Programs with related responsibilities include: Business Technology Management, Finance, Industrial Engineering, International Business, , MA Economics, Marketing, , MASc Information Systems Security, MASc Quality Systems Engineering, Mathematics, Mechanical Engineering, Supply Chain Operations Management

- Full cycle project and product management
- Surveying, statistics and data analysis

- Market trends and key growth strategies and analysis
- Operations management and value stream mapping
- Feasibility studies and develop business plans
- Market entry strategies / customer journey mapping
- Financial reporting and decision making
- IT sourcing strategies and implementation
- Develop marketing and communications plans

FACULTY OF ARTS & SCIENCE AND FACULTY OF FINE ARTS

Actuarial Mathematics/Finance

Programs with related responsibilities include: Economics Finance, Mathematics, MBA, Statistics

- Mathematical modeling
- Analysis and risk control
- Financial and statistical analysis
- Pension management
- Insurance products
- Actuarial consulting
- Health benefits planning and calculations
- Theory and programming languages

Actuarial Mathematics

Programs with related responsibilities include: Economics, Finance, Mathematics, Statistics

- Specialized knowledge in calculus, statistics and probability
- Evaluating insurance products
- Pension plans and risk management
- Statistical analysis
- Database manipulation
- Programming in SAS, VBA, R
- Pricing (re-) insurance products
- Modeling distributions

Mathematics

Programs with related responsibilities include: Computer Engineering, Computer Science, Economics, Electrical Engineering, Finance, MASc Information Systems Security, MASc Quality Systems Engineering, MBA, Physics, Software Engineering, Statistics

- Industry and market statistics and analysis
- Developing databases
- Investment and data analysis
- Cryptography
- Analysis of statistics
- Testing survey hypotheses
- Manipulating algorithms
- Computer hardware, software development and testing

Mathematical Computational Finance

Programs with related responsibilities include: Actuarial Mathematics/ Finance, Computer Engineering, Computer Science, Economics, Finance, MBA, Statistics

- Financial engineering

- Quantitative modelling and risk management
- Portfolio management
- Investment trading
- Algorithmic and high frequency trading
- Investment and data analysis

Statistics

Programs with related responsibilities include: Actuarial Mathematics, Economics, Marketing, Mathematics, MBA, Physics, Political Science, Sociology

- Biostatistics
- Collection, Analysis and Interpretation of Data
- Development & planning of business and market strategies
- Hypothesis testing, forecasting and predicting
- Management of investment portfolios
- Survey analysis
- Software development
- Shaping of public policy in government

Biology

Programs with related responsibilities include: Biochemistry and Chemistry

- Microbiology/virology assays, bacteria/viral culture and counting
- Characterize the effects of drug candidates in cells and/or in animals
- Bacteria or blood smear preparations and staining
- ELISA, DNA cloning, plasmid isolation, PCR, sequencing
- Field assistant, species identification, measurement and counting
- Collecting biological and/or soil samples/information
- Museum specimen curation and biological data curation

Biochemistry

Programs with related responsibilities include: Biology, Building Engineering, Chemistry, Civil Engineering, MASc Quality Systems Engineering, Physics

- Laboratory and instrumentation training
- Analysis of protein structure and transitions
- Detecting biomolecular interaction
- Extracting, purifying and quantitating metabolites in biological samples
- Calorimetry, circular dichroism, DNA denaturation
- Designing purification devices and protein purification
- Investigating DNA cloning
- Cell culture, receptor and enzyme assays
- Quality Control, Quality Assurance, Regulatory Affairs

Chemistry

Programs with related responsibilities include: Biochemistry, Biology, MASc Quality Systems Engineering, Physics

- Laboratory and instrumentation training
- Synthesis, purification and characterization of organic and inorganic compounds
- NMR, IR, GC, GC-MS basics
- Wet analytical chemistry methods
- Kinetic analysis via spectroscopic techniques
- Quality Control, Quality Assurance, and Regulatory Affairs
- Environmental chemistry analysis

Economics and MA Economics

Programs with related responsibilities include: Actuarial Mathematics/ Finance, Anthropology, Finance, Mathematics, MBA, Political Science, Sociology, Statistics and Supply Chain Management

- Analysis of income and production
- Analysis and interpretation of numerical and financial information
- Investment analysis
- Analysis of taxes and government expenditures
- Econometrics
- Public sector policies
- Study of labour
- Qualitative and quantitative analyses
- Interpretation of survey data

Journalism

Programs with related responsibilities include: Anthropology, Computation Arts, Design, International Business Marketing, Political Science, Sociology

- Story chasing and news reporting
- Anchor and broadcast media
- Social media and blog management
- Digital/Web content production
- Public relations
- Corporate communications
- Recording and editing audio/video
- Event production and planning
- Photography, InDesign and Photoshop

Physics

Programs with related responsibilities include: Actuarial Mathematics, Aerospace Engineering, Biochemistry, Biology, Building Engineering Chemistry, Civil Engineering, Computer Engineering, Computer Science, Electrical Engineering, Mathematics, Mechanical Engineering, Software Engineering.

- Quantitative data analysis
- Numerical and theoretical modeling
- Electronics and computer engineering software/hardware
- Modeling development in lasers and optics
- Image processing and medical imaging modeling
- Micro/Nano fabrication
- Fabrication of organic solar cells,
- Quantitative biology and modeling chemical reactions
- Astro Physics

Translation (English and French)

- Commercial, legal, financial, technical, literary, video games, subtitling and social sciences translation
- Annual reports, speeches, press releases, memos and reports, catalogues, training guides and newsletter documents
- Project management and website localization
- Creation and management of terminology records

Political Science

Programs with related responsibilities include: Anthropology, Economics, Human Resources, International Business, Journalism, Marketing, Mathematics, Sociology, Statistics

- Public policy evaluation and research (local or international)
- Government or business organizational policies and procedures
- Economic and statistical analysis
- Legal matters and regulatory documentation
- Business reports, administration, and presentations
- Event and project coordination
- Public relations and corporate communications
- Corporate Social Responsibility
- Human Rights, advocacy and critical analysis



Sociology/Anthropology

Programs with related responsibilities include: Anthropology, Economics, Human Resources, International Business, Journalism, Marketing, Mathematics, MBA, Political Science, Statistics

- Statistics, economics and data management
- Public opinion tracking and market analysis
- Behavioral analysis for marketing of products/services
- Human resource policies
- Corporate Social Responsibility
- Customer or public relations
- Internal and external communications
- Human rights
- Museums and Cultural Affairs
- Local community advocacy

Computation Arts

Programs with related responsibilities include: Computer Engineering, Computer Science, Design Arts, Journalism, Software Engineering

- Web project design and development
- Multimedia project design and development
- Videogame design and development
- 3D modelling and animation
- Sound and video editing
- User interface and interaction design
- Digital media landscape assessment

Design

Programs with related responsibilities include: Building Engineering, Computation Arts, Industrial Engineering, Journalism, Marketing, Mechanical Engineering

- Print layout and design
- Website structuring
- Product conceptualization for branding strategies
- Photography and digital illustration
- 2D and 3D design
- Public space design
- Sustainability-oriented design
- Video editing and animation

FACULTY OF ENGINEERING AND COMPUTER SCIENCE*

Aerospace Engineering

Programs with related responsibilities include: Building Engineering, Civil Engineering, Computation Arts, Design, Electrical Engineering, Industrial Engineering, Mechanical Engineering, Physics

- Creating and reviewing technical drawings
- Designing aerospace subsystems
- Researching on composites for aircraft
- Simulating flows using CFD
- Gas turbine performance analysis
- Low emissions combustor redesign

Building Engineering

Programs with related responsibilities include: Civil Engineering, Computation Arts, Design, Electrical Engineering, Industrial Engineering, Mechanical engineering, Physics

- Producing AutoCAD drawings
- Site visits and inspections
- Project Management
- Building inspections
- Energy audit of buildings
- Preparing plans for HVAC systems
- Preparing plans for electrical systems
- Engineering surveying

Civil Engineering

Programs with related responsibilities include: Biochemistry, Biology, Building Engineering, Computation Arts, Design, Electrical Engineering, Mechanical Engineering, Physics

- Geometric and pavement design of roads
- Civil Infrastructure design
- Engineering surveying
- Assessing buildings equipment and systems
- Geotechnical site investigation
- Project Management
- Inspecting construction sites
- Environmental assessments

Computer Engineering

Programs with related responsibilities include: Computation Arts, Computer Science, Electrical Engineering, MAsc Information Systems Security, MAsc Quality Systems Engineering, Physics, Software Engineering

- Software systems requirements, design, implementation and testing
- Hardware design, testing and implementation.
- Developing real-time embedded systems
- Developing telecom and communication network systems
- Data structure and algorithms
- Computer Architecture and Design

Electrical Engineering

Programs with related responsibilities include: Computer Engineering, Computer Science, Physics, Software Engineering

- Designing, testing, and integrating telecom solutions
- Analyzing, designing, and verifying integrated circuitries
- Developing Power and Renewable Energy Systems
- Developing robotic and avionics systems

***Graduate students also available**

Industrial Engineering

Programs with related responsibilities include: Aerospace Engineering, Building Engineering, Business Technology Management, Civil Engineering, MBA, Mechanical Engineering, Physics, Supply Chain Operations Management

- Production and operations planning
- Process improvement and re-engineering
- Designing plant layout
- Logistics planning and optimization
- Lean Six Sigma
- Inventory optimization and forecasting
- Simulation and optimization of business processes
- Performing ergonomic evaluations
- Capacity and backlog analysis

Mechanical Engineering

Programs with related responsibilities include: Aerospace Engineering, Building Engineering, Business Technology Management, Industrial Engineering, MBA, Physics, Supply Chain Operations Management

- Creating and reviewing mechanical and technical drawings
- Production and operations engineering
- Designing mechanical parts
- Researching on composites for aircraft
- Assembling a pipeline
- Preparing specimens for testing and analyzing the results
- Project Management

Software Engineering

Programs with related responsibilities include: Computation Art, Computer Engineering, Computer Science, Electrical Engineering, MASc Information Systems Security, MASc Quality Systems Engineering, Physics

- Analyzing, designing, implementing and maintaining systems
- Analyzing and developing computer solutions
- Provide technical support
- Developing, programming, designing, coding and testing
- Planning and implementing computer security systems
- Design, implement and evaluate user interfaces
- Developing real-time control and data acquisition systems
- Windows, Linux, Oracle, Java and C++
- Project management

Computer Science

Programs with related responsibilities include: Computation Art, Computer Engineering, Electrical Engineering, MASc Information Systems Security, Mathematics, MASc Quality Systems Engineering, Physics, Software Engineering

- Windows, Linux, Oracle, Java and C++
- Providing technical support
- Analyzing and developing computer solutions
- Creating, designing, modifying, and testing software
- Planning and implementing computer security systems for database access control
- Creating web pages

MASc Quality Systems Engineering

Programs with related responsibilities include: Computer Engineering, Computer Science, Industrial Engineering, MASc Information Systems Security, MBA, Mechanical Engineering, Physics, Software Engineering, Supply Chain Operations Management

- Planning, developing, testing, implementing, monitoring, maintaining and improving systems
- Systems reliability and process re-engineering
- Quality assurance
- Project management
- Developing DB 2 Kernel
- Analysis of quality systems and supply chain operations management

MASc Information Systems Security

Programs with related responsibilities include: Actuarial Mathematics, Computer Engineering, Computer Science, MASc Information Systems Security, MBA, Physics, Software Engineering

- Research, development and documentation of projects
- Developing secure protocols
- Developing secure applications
- Systems Hardening
- Cloud security
- Software development
- Bugs and malware analysis
- Big data analysis and verifications

For more information

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