MGTS – MANAGEMENT SCIENCE

MGTS 103
Introduction to Business Statistics
3 Credits
This course provides an introduction to descriptive and inferential data analysis in business. Topics include: data visualization through tables and graphs, probability, discrete and continuous random variables, probability distributions, sampling, hypothesis testing for means and proportions, and decision analysis. Lectures are accompanied by lab sessions during which students learn applications of business statistics using Excel spreadsheets.

MGTS 107
Business Computing
3 Credits
Students develop foundational computer skills in the areas of file management, word processing, spreadsheet analysis, and presentation development in order to support subsequent courses in their university career and to prepare them for the business world. Students solve business problems through data analysis, financial forecasting, and the use of charts and visualizations.

MGTS 113
Introduction to Quantitative Decision-Making
3 Credits
Students are introduced to quantitative techniques commonly used in managerial decision-making. Students focus on the applications of these techniques to major decision-making areas of business. Topics include: the use of ratios, proportions, percents, and equations to solve business problems, simple and compound interest, analysis and interpretation of the time value of money, progressions and their applications in finance, linear programming and optimization, data visualization techniques and their applications in managerial decision making, and break-even analysis. Note: Credit can only be obtained in one of MGTS (p. 1)113 or FNCE (https://calendar.macewan.ca/course-descriptions/fnce/)113.

MGTS 312
Advanced Business Statistics
3 Credits
This course builds upon MGTS 103 (Introduction to Business Statistics) by introducing students to simple and multiple regression analysis and model-building techniques with special emphasis on data-driven decision making in a business context. Lectures are accompanied by lab sessions during which students learn applications of business statistics using Excel.
Prerequisites: MGTS 103.

MGTS 315
Computational Thinking
3 Credits
Students will develop computational thinking skills as an approach to problem solving in this course. Students will learn the logical procedures and steps in the computational thinking approach which include decomposition, pattern recognition, abstraction, and algorithm design. Note: Credit can only be obtained in one of PSYC 315 or MGTS 315.
Prerequisites: Third year standing as well as minimum grades of C- in PSYC 104 or 105, and in one of STAT 151, STAT 161, or MGTS 103.

MGTS 352
Operations Management
3 Credits
This is a problem-solving course where students explore the managerial and strategic considerations of operations management decisions by examining and applying techniques such as capacity management, inventory management and control methods, waiting line theory, forecasting, project management and control techniques, and other operations management topics. Spreadsheet modeling is used to implement some of these techniques.
Prerequisites: One of MGTS 103 or STAT 141 or STAT 151 or ACCT 215.

MGTS 401
Advanced Data Modeling in Business
3 Credits
Students will develop knowledge and skills in advanced data modeling and will learn about different models for data sets in which the assumptions of the multiple regression model are not met. The discussion is illustrated with examples from key functional areas of business where decision making has benefited from advanced data modeling. The students will learn to use statistical software programs such as R to conduct their analyses.
Prerequisites: Minimum grade C+ in MGTS 312 or equivalent.

MGTS 417
Knowledge Discovery and Data Mining
3 Credits
Students will develop proficiency in data mining techniques and the knowledge discovery process.The analyses are set in a business context where students learn to formulate a data mining problem in response to project objectives. Students will develop knowledge in using data mining software.
Prerequisites: Minimum grade C+ in MGTS 312 or equivalent.

MGTS 485
Business Intelligence Consulting I
3 Credits
Students will develop knowledge and skills in conducting and managing internal and external business intelligence consulting projects.
The course content is developed for integration into progressively complicated hands-on projects.
Prerequisites: MGTS 417, MGTS 401, and MGTS 315 or PSYC 315.

MGTS 486
Business Intelligence Consulting II
3 Credits
Students will further their knowledge and skills in conducting and managing internal and external business intelligence consulting projects. Course content is developed for integration into hands-on projects with real data provided by actual stakeholders. This course builds upon the business intelligence consulting processes by emphasizing students' ability to conduct quality control of their own work and simultaneously manage multiple trade-offs and considerations.
Prerequisites: MGTS 485.

MGTS 497
Special Topics in Management Science
3 Credits
This course involves reading, discussing and critically evaluating current research on specialized topics of interest to senior students in the Bachelor of Commerce. Topics covered vary with the interests of students and faculty and may include an applied field research component in business, government or community. Students should consult with faculty members in the Department of Decision Sciences and Supply Chain Management for details regarding current offerings. This course can be taken twice for credit.
Prerequisites: Minimum of C- in one 300 level MGTS *(p. 1) course and consent of the department chair or designate.*

MGTS 498
Independent Studies in Management Science
3 Credits
In consultation with, and supervised by, a member of the department or an approved professional in the community, a senior student undertakes advanced scholarly work related to the field of management science. The faculty member guides the student in designing and undertaking this work, using appropriate assumptions and methods to arrive at warranted conclusions and out comes that will advance management science knowledge or practice or create meaningful results. Note: This course can be taken twice for credit.
Prerequisites: Consent of the course instructor and the department chair.