QUANTITATIVE METHODS I

School of Accounting & Finance

Course Code: STAT1010	**Co-Requisites:** Please see Course Related Information	**Pre-Requisites:** MATH1021 OR MATH1095 OR MATH1131 OR MATH1191
Applicable Program(s): Multiple Programs Please See Below for Details	**Core/Elective:** Core	

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Approved by: Elizabeth Speers, Director

Approval Date: Wednesday, August 7, 2019

Approved for Academic Year: 2019-2020

Contact Hours: 42.00

Credit Hours: 3.00

Course Description

This introductory first course in business statistics focuses on applications of data analysis and statistics in business and economics. Topic covered include descriptive statistics and graphical presentation, probability, probability distributions, sampling distribution and estimation. Applications are covered through practical data analysis examples. Computer- intensive sessions will focus on practical data organization, visualization, statistical analysis using software (Excel, Minitab, Data Analysis and Data Analysis Plus), and interpretation and communication of statistical results.

Essential Employability Skills

This course contributes to your program by helping you achieve the following Essential Employability Skills:

EES 1   COMMUNICATION: Communicate clearly, concisely and correctly in the written, spoken and visual form that fulfills the purpose and meets the needs of the audience. (T, P,)

EES 2   COMMUNICATION: Respond to written, spoken or visual messages in a manner that ensures effective communication. (P,)

EES 3   NUMERACY: Execute mathematical operations accurately. (T, P, E,)

EES 4   CRITICAL THINKING & PROBLEM SOLVING: Apply a systematic approach to solve problems. (T, P, E,)

EES 5   CRITICAL THINKING & PROBLEM SOLVING: Use a variety of thinking skills to anticipate and solve problems. (T, P, E,)

EES 6	INFORMATION MANAGEMENT: Analyze, evaluate and apply relevant information from a variety of sources. (T, P, E,)
EES 7	INFORMATION MANAGEMENT: Locate, select, organize and document information using appropriate technology and information systems. (T, P, E,)
EES 8	INTERPERSONAL: Show respect for diverse opinions, values, belief systems and contributions of others. (P,)
EES 9	INTERPERSONAL: Interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals. (T, P, E,)
EES 10	PERSONAL: Manage the use of time and other resources to complete projects. (T, E,)
EES 11	PERSONAL: Take responsibility for one's own actions, decisions and consequences. (T, P,)

Note: "T" means elements of the skill are taught; "P" means elements of the skill are practiced; "E" means elements of the skill are evaluated; "C" means the skill culminates.

Course Learning Outcomes

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When you have earned credit for this course, you will have demonstrated the ability to:

CLO 1	CLO1- Identify and explain types of data based on description.

- Identify quantitative or interval data.
- Identify qualitative or nominal data.
- Identify ranked or ordinal data.
- Be able to select the proper and most appropriate types of charts and graphs for the different data types in order to summarize data.
- Be able to categorize and organize data into distribution tables and other organizational tables.

CLO 2	CLO2- Demonstrate an ability to calculate and select appropriate measures of central tendency and dispersion for a given set of data.

- Calculate the mean, median and mode.
- Distinguish the difference between a sample data set and population data set.
- Calculate the range, variance and standard deviation of a data set.
- Approximate statistical measures (mean and variance) from a distribution table.
- Define percentiles and be able to calculate the location of percentiles in a data set.

CLO 3	CLO3- Identify the different sources of measurement and error.

- Random error
- Systematic error
- Situational error

CLO 4	CLO4- Demonstrate a knowledge of probability and its uses in statistics.

- Compute probability using the classical approach.
- Compute probability using the relative frequency approach.
- Compute probability using the subjective approach.
- Define the various terms such as event and sample space used in probability calculations.
- Discern deterministic and probabilistic models of the problem and understand the importance of probability distribution in inferential statistical theory.
- Identify and work with the calculations involved for the various probability distributions.

CLO 5   CLO5- Understand and demonstrate an understanding of estimation.
- Determine an estimate for population parameters indicating the margin of error based on sample statistics.
- Estimate using the t-distribution.

Delivery Methods/Learning Activities

The instructional methods of this course consist of lectures,inquiry oriented presentations, group work in class and on Blackboard Discussion Board. Calculators and spreadsheets will be used to facilitate calculations that underlie most statistical applications.The statistical analysis will be perform using Excel, Minitab, Data Analysis, Statcrunch ,and Solver .

Learning Resources

Learning Resources

Required:
Business Statistics – A decision making approach ,10 ed David Groebner, Patrick Shannon, Phillip Fry
Pearson ISBN: 9780134577388

Financial calculator TI BA II Plus,
Excel, Minitab, Data Analysis, Statcrunch.

If this course is mandatory for your program, then the eText has been included in your material fees. You do not need to purchase an additional copy. Your faculty will provide you with instructions on how to claim this eText on the first day of class. Please note:
If you are taking this course as a business elective, you will not have been charged or deployed the eText. You will need to purchase the eText separately, please contact your faculty for further instructions.
If this is a mandatory course in your program, but you are having issues claiming your eText, please visit the Academic Office (SJA 313A or SJC 103) for assistance.
If this is not your first time taking this course, you may be eligible for a refund. Please visit the Academic Office (SJA 313A or SJC 103) for more information.

Course Related Information

Pre-requisites: MATH1021 (MATH 1191) or MATH1095 or MATH1131
Co-requisites: NONE

School Related Information

Quizzes and Tests

No aids allowed unless otherwise specified by the Professor. (Refer to the Course Related Information section of the course outline for more information.)

Late Submissions

Students who are unable to submit an assessment on the due date should discuss the matter in advance with the professor. At the professor's discretion, late assessments may not be accepted. Where late assessments are accepted, a late penalty will be applied. (Refer to the Course Related Information section of the course outline for more information.)

Missed Exams

Exemption or deferral of an exam is not permitted except for a medical or personal emergency. The professor must be notified by e-mail prior to the test. Appropriate documentation, as determined by George Brown College policies, must be provided.

Absence from exams:

Professor must be notified by e-mail before the examination when possible

Documentation must be presented to the professor within three business days.

If the majority of the course work has been completed with a passing performance, and the documentation is acceptable, an "Incomplete" grade (INC) will be entered by the instructor. An INC grade will not be granted if term work was missed or failed.

The final examination must be written within 60 days of the submission of the incomplete grade. Failure to do this will result in an F grade.

Assessment of Student Learning Policy:

George Brown College is committed to ensuring that all students are provided with an equitable framework to ensure fair treatment with respect to the conduct and scheduling of formal learning assessments, grading, and handling of student work once an assessment is complete.

Educational Concerns and Complaints Policy:

This policy provides transparent information to the George Brown College community on how program-level and college-wide academic concerns and complaints will be managed. It is the intent of this policy to ensure that students have access to a clear process that is founded on fairness, impartiality, accessibility, respect and responsiveness.

Promotion and Progression Policy:

George Brown College is committed to providing students with a clear, consistent, and equitable framework for understanding their progression through their program of study, and to ensuring that this framework is effectively communicated at the outset of their program and at key intervals.

To access the policies above or any other academic policies, please go to the policy page of the George Brown College website (https://www.georgebrown.ca/policies/)

George Brown Related Information

PROGRAM LEARNING OUTCOMES

Every Ontario community college program is designed to deliver a set of specific program learning outcomes. Program Learning Outcomes are statements that describe the knowledge, skills and attitudes students are expected to acquire and demonstrate on completing their program of study. College programs are designed to deliver vocational or discipline-specific learning outcomes that relate to the unique content of a particular area of study. For a complete list of your program's specific program outcomes please go to your program page on the George Brown College website [https://www.georgebrown.ca/].

EQUITY STATEMENT

George Brown College values the talents and contributions of its students, staff and community partners and seeks to create a welcoming environment where equity, diversity and safety of all groups are fundamental. Language or activities which are inconsistent with this philosophy violate the College policy on the Prevention of Discrimination and Harassment and will not be tolerated. The commitment and cooperation of all students and staff are required to maintain this environment. Information and assistance are available through your Chair, Student Affairs, the Student Association or the Human Rights Advisor.

STUDENT RESPONSIBILITIES

Students should obtain a copy of the Student Handbook and refer to it for additional information regarding the grading system, withdrawals, exemptions, class assignments, missed tests and exams, supplemental privileges, and academic dishonesty. Students are required to apply themselves diligently to the course of study, and to prepare class and homework assignments as given. Past student performance shows a strong relationship between regular attendance and success.

ACCESSIBLE LEARNING SERVICES

George Brown College is committed to ensuring that all students with disabilities (mental health, medical, learning, physical or sensory) who seek support receive reasonable and effective academic accommodations and support that allow them to fully participate in the academic environment. Students with disabilities have equal access to all College programs and services. Accessible Learning Services, in collaboration with academic departments and other service areas, provides these supports at all campuses and for all programs. Only those involved in the accommodation plan shall be alerted to a student's registration with Accessible Learning Services. A student's registration with AL Services will not be identified on the student's official college transcript and/or graduation documentation. For more information, please visit the Accessible Learning Services website [http://www.georgebrown.ca/accessible-learning-services/] or call 416-415-5000 ext. 2622 or email letstalk@georgebrown.ca

ACADEMIC INTEGRITY

George Brown College is committed to the highest standards of academic integrity. The college's academic integrity policy seeks to ensure that all students understand their rights and responsibilities in upholding the values of academic integrity, that students receive an accurate and fair assessment of their work, and that the integrity of George Brown College's community is accessible to all students, faculty and staff. Please go to the policy page of the George Brown college website [https://www.georgebrown.ca/policies/] to review the **Academic Integrity** Policy.

TEXT MATCHING SOFTWARE

Text-matching detection software assists faculty and students in preventing and detecting plagiarism. Faculty may utilize such software in order to check the originality of the academic work students submit in a course by comparing submitted assignments to those contained in publically accessible Internet sites, and academic journals, as well as databases consisting of submitted papers and other sources. Faculty may not submit any student work through a text matching/anti-plagiarism tool, or require students to submit work through the tool, that contains personally identifiable student information.

Student Evaluation System

Below is a list of evaluation methods included in this course along with the course learning outcomes (CLO) and essential employability skills (EES) assessed by each. In some cases, program learning outcomes (PLO) assessed may also be indicated.

Test(s) (25%)

Test 1

    Validates Outcomes: CLO 1, CLO 2, CLO 3, EES 3, EES 4, EES 5, EES 6

Test(s) (25%)

Test 2

    Validates Outcomes: CLO 4, CLO 5, EES 3, EES 4, EES 5, EES 6

Assignment(s) (15%)

Case study and/or weekly computer assignments

    Validates Outcomes: EES 1, EES 6, EES 7, EES 9, EES 10, EES 11

Final Exam (35%)

comprehensive exam

    Validates Outcomes: CLO 1, CLO 2, CLO 3, CLO 4, CLO 5, EES 3, EES 4, EES 5, EES 6

Prior Learning Assessment and Recognition

Prior learning assessment and recognition (PLAR) is a process that gives students the opportunity to obtain academic credit for one or more courses in a certificate, diploma or degree based on learning acquired through life experiences before enrollment in a program. More information regarding PLAR can be found on the GBC website at: http://www.georgebrown.ca/plar/

• This course is PLAR eligible, please see Program Coordinator/Chair for more information.

Grading System

The passing grade for this course is 50% / "D"

Final Grade	Percentage	Weight
A+	90-100	4.0
A	86-89	4.0
A-	80-85	3.7
B+	77-79	3.3
B	73-76	3.0
B-	70-72	2.7
C+	67-69	2.3
C	63-66	2.0
C-	60-62	1.7
D+	57-59	1.3
D	50-56	1.0

Refer to the Evaluation System on this outline for information on how marks are distributed. More detailed information on assessments may also be found in your Course Section document.

As per Office of the Registrar Policies:

"A" Range = GPA 4.0-Consistently exceeds (course) requirements; shows evidence of being well-organized; shows original and creative thinking and a superior grasp of subject matter.

"B" Range = GPA 3.0-Shows consistent performance and evidence of being well-organized, shows elements of original and creative thinking; has a strong grasp of subject matter

"C" Range = GPA 2.0-Applies the subject matter appropriately; comprehends the subject matter."

"D" Range = GPA 1.0-The student inconsistently applies and communicates knowledge of the subject matter

"F" Range = GPA 0.0-The student fails to apply and communicate an understanding of the subject matter.

Additional information regarding grading for this course may also be found in the "Course Related Information" section of this course outline.

Programs

This Course is applicable to the following Programs.

B103 - Business - Accounting

B107 - Business Administration - Accounting

B130 - Business Administration - Finance

B133 - Business - Finance

B150 - Business Administration - Finance

Legend

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Terms

•ALO: Aboriginal Learning Outcome

•Apprenticeship LO: Apprenticeship Learning Outcome

•CLO: Course Learning Outcome

•DPLO: Degree Program Learning Outcome

•EES: Essential Employability Skill

•EOP: Element of Performance

•GELO: General Education Learning Outcome

•LO: Learning Outcome

•APO: Additional Program Outcome

•PLA: Prior Learning Assessment

•PLAR: Prior Learning Assessment and Recognition

•PLO: Program Learning Outcome