

MBA I603
Competing through Digital Transformation & Analytics
Fall 2017 Course Outline

Information Systems & Operations Management Areas
DeGroote School of Business
McMaster University

COURSE OBJECTIVE

This course will introduce students to the fundamental concepts of digital information systems and how the transformative role they play in today's business environment. Students will also become familiar with popular analytics techniques to make effective business decisions. The course will provide an application oriented introduction to building computer models of managerial problems from different functional areas. Through case analyses, assignments, class discussions, and hands on exercises, students will be exposed to diverse opportunities to apply and integrate theories from the information systems and operations management disciplines.

INSTRUCTOR AND CONTACT INFORMATION

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COURSE ELEMENTS

Credit Value: 3	Leadership: Yes	IT skills: Yes	Global view: Yes
Avenue: Yes	Ethics: Yes	Numeracy: Yes	Written skills: Yes
Participation: Yes	Innovation: Yes	Group work: Yes	Oral skills: Yes
Evidence-based: Yes	Experiential: Yes	Final Exam: Yes	Guest speaker(s): No

COURSE DESCRIPTION

The first part of this course will expose students to the strategic and transformative role that digital technologies and information systems can play in creating and sustaining a competitive advantage for organizations. To that end, the fundamental concepts of information systems and how they transform and support management and operations in the modern business environment will be examined. Topics will include strategic applications and value of information systems; information technologies in support of decision making; enterprise systems; business intelligence; and information systems development/acquisition methodologies. In the second part of the course, students will also be introduced to the most popular analytics tools to make business decisions both within a firm and across a supply chain in an increasingly digital environment. To that end, analytics techniques will be used to logically model real-world applications, which will then be solved and analyzed within a spreadsheet environment. To sum, the first part of the course will emphasize the best practices required to unlock the full potential of organizational investments in digital technologies and systems, whereas the second part will focus on the use of state of the art analytics tools to prescribe the best course of action for different business problems.

LEARNING OUTCOMES

Upon completion of this course, students will be able to complete the following key tasks:

- Describe the basic concepts, terminology, and principles of digital information systems and recognize their importance to the success of any organization.
- Describe the potential capabilities, use, and transformative effect of different types of digital information systems within an organization.
- Identify the major methodologies/challenges involved in building/acquiring and using information systems.
- Demonstrate proficiency in using spreadsheets (MS EXCEL) to support managerial decision-making.
- Assume the role of the decision maker in various managerial situations related to information systems in a variety of industries.
- Understood the role of Spreadsheets in Analytics.
- Comprehend and use the most popular Analytics techniques.
- Learn how to incorporate uncertainty in Analytics.

REQUIRED COURSE MATERIALS AND READINGS

Avenue registration for lecture notes, course content, readings, and case materials

➤ <http://avenue.mcmaster.ca>

\$ FREE

Business I603 Cases Course Pack – Part I, Fall 2017,
Editor: TBD

➤ Purchase a copy at the bookstore

TBA

Custom textbook: developed with McGraw-Hill entitled, “*I603: Part II Competing through Analytics*”.
ISBN: 9781260183023 (or e-text ISBN: 9781260183030).

OPTIONAL COURSE MATERIALS AND READINGS

Learning with Cases. Ivey School of Business Publishing

➤ Purchase a copy at the bookstore

TBA

EVALUATION

Learning in this course results primarily from in-class discussion and participation of business cases as well as out-of-class analysis. The balance of the learning results from the lectures on strategic concepts, from related readings, and from researching your presentations, cases, assignments, simulation decisions and projects. All work will be evaluated on an individual basis except in certain cases where group work is expected. In these cases, group members will share the same grade adjusted by peer evaluation. Your final grade will be calculated as follows:

Components and Weights

Assignment 1 (week 4)	Excel for Decision Making (individual)	15%
Case Presentation (week 5)	Team Case Presentation (group)	25%
Participation	In-class Contribution (individual)	10%
Assignment 2 (week 8)	(individual)	15%
Final Exam	(individual)	35%
Total		100%

NOTES:

- Any requests for a re-read of the assignments or examinations should be made within two weeks of the date of distribution of the marks.
- The use of a McMaster standard calculator is allowed during examinations in this course. See McMaster calculator policy at the following URL:

<http://www.mcmaster.ca/policy/Students-AcademicStudies/GradExamsPolicy.pdf>

Grade Conversion

At the end of the course your overall percentage grade will be converted to your letter grade in accordance with the following conversion scheme:

LETTER GRADE	PERCENT	POINTS
A+	90-100	12
A	85-89	11
A-	80-84	10
B+	75-79	9
B	70-74	8
B-	60-69	7
F	00-59	0

Communication and Feedback

Students that are uncomfortable in directly approaching an instructor regarding a course concern may send a confidential and anonymous email to the respective Area Chair or Associate Dean:

<http://mbastudent.degroote.mcmaster.ca/contact/anonymous/>

Students who wish to correspond with instructors or TAs directly via email must send messages that originate from their official McMaster University email account. This protects the confidentiality and sensitivity of information as well as confirms the identity of the student. Emails regarding course issues should NOT be sent to the Administrative Assistant.

Instructors should provide evaluation feedback for at least 10% of the final grade to students prior to Week #5 in the term.

Assignment #1 – Excel for Decision Making

This individual assignment is worth **15%** of your final grade. Through this assignment you will demonstrate your proficiency in the advanced EXCEL functions discussed class, that will build on the fundamental Excel skills you acquired during foundations week. You will be required to answer a series of questions involving decisions to be made based on analyzing data in EXCEL spreadsheets. This assignment assumes that students are familiar with basic EXCEL functionality. The necessary background involving advanced EXCEL function will be covered in class, including demos and hands-on exercises. Designated course TAs will also be available to answer assignment related questions during specified office hours which will be posted on the course Website.

This assignment must be handed in electronically through the course website by the due date and time. **The penalty for overdue assignments is 20% of the total assignment mark per day.**

Team Case Presentation

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This team assignment is worth **25%** of your final grade. Student teams will be assigned a code corresponding to their cohort and an alphabetical letter (e.g., C1A, C4H). Teams will conduct an analysis for one of two cases and will present it in class during the fifth week, a schedule of the presentations will be posted by the second week. The cases will be available on the course website at the beginning of the term. The assignment of teams to a particular case will be on a first come first assigned basis. Only one student from each team should email the designated TA (not earlier than 5:00 p.m. on October 10th) with the following information: (Team code, team members, preferred case). An assignment schedule will be posted to the course website by 8:30 a.m. on October 16th.

Presentations should take no more than 15 minutes in addition to 10 minutes allowed for questions and answers. Students are expected to make effective use of material discussed in class as well as other resources available from the Web or specialized relevant references. The mark of the team presentation will be based on how professional the presentation is, how comprehensive the analysis and recommendation are, and how well the Q&A period was handled by the team. PowerPoint presentations are expected. The evaluation form used in assessing the case presentations is available on the course Website. Additionally, case presentations samples and their evaluation are also posted on the course website¹.

Case presentations must be uploaded electronically to the course before the beginning of class on the day the case is being presented.

Participation

Students are encouraged to engage actively in class discussions related to the material being presented by the instructor or the cases being presented by student teams. The instructor and TAs will feel free to cold-call on anyone at any time. Hence, it is very important that you prepare for each and every class and case discussion as appropriate. Debate and challenge are important activities that help in the learning process and the willingness of individuals to engage in such activities with their classmates is appreciated. Opportunities for in-class participation include taking part in discussions during the lecture and case discussions in class by: Asking questions; Responding to questions posed by the instructors or other students; and Making relevant comments on material covered.

Name cards and class pictures are used to help give credit for your participation. You must have a name card with your **full first and last name** clearly written and displayed in front of you for every class. If you are absent from any class for a legitimate reason, you should indicate that to the instructors so that you are not penalized for lack of participation during that class.

¹ Please note that these samples are very good to excellent but not perfect. Please also note that your case presentation may be used as a sample for students in future deliveries of this course (after removing any identifying information of the authors). If you object to this, simply let Shamy know and I will make sure it is not shared.

Participation marks will be based on both the quantity and quality of your in-class contributions. **Mere attendance in class without participation does not earn you any participation marks. Instructors will strive to give all students equal contribution chances but you have to show interest in participating by raising your hand.**

During the term students should consult the instructors about their level and quality of participation. Contact your instructors if you are concerned that your participation mark will be low. There are ways they can help you to participate more effectively.

Assignment #2: 15% (Part II)

There will be one assignment, to be done individually. Refer to the course outline for the due date. This assignment must be handed in electronically through the course website by the due date and time. The penalty for overdue assignments is 20% of the total assignment mark per day.

Final Exam: 35% (Part II)

This exam will be cumulative. There will be a final exam on the Analytics component of this course. It will be written during the final exam week.

ACADEMIC DISHONESTY

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: “Grade of F assigned for academic dishonesty”), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at:

www.mcmaster.ca/academicintegrity

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one’s own or for which other credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations

Language for Use in Courses with an On-Line Element

In this course we will be using X*. Students should be aware that when they access the electronic components of this course, private information such as first and last names, user names for the

McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure.

If you have any questions or concerns about such disclosure, please discuss this with the course instructor.

X* = e-mail, LearnLink, WebCT, web pages, capa, Moodle, ThinkingCap, etc

MISSED ACADEMIC WORK

Missed Mid-Term Examinations / Tests / Class Participation

Where students miss a regularly scheduled mid-term or class participation for legitimate reasons as determined by the Student Experience – Academic (MBA) office, the weight for that test/participation will be distributed across other evaluative components of the course at the discretion of the instructor. Documentation explaining such an absence must be provided to the Student Experience – Academic (MBA) office within five (5) working days upon returning to school.

To document absences for health related reasons, please provide to Student Experience – Academic (MBA) office the Petition for Relief for MBA Missed Term Work and the McMaster University Student Health Certificate which can be found on the DeGroote website at <http://mbastudent.degroote.mcmaster.ca/forms-and-applications/>. Please do not use the online McMaster Student Absence Form as this is for Undergraduate students only. University policy states that a student may submit a maximum of three (3) medical certificates per year after which the student must meet with the Director of the program.

To document absences for reasons other than health related, please provide Student Experience – Academic (MBA) office the Petition for Relief for MBA Missed Term Work and documentation supporting the reason for the absence.

Students unable to write a mid-term at the posted exam time due to the following reasons: religious; work-related (for part-time students only); representing university at an academic or varsity athletic event; conflicts between two overlapping scheduled mid-term exams; or other extenuating circumstances, have the option of applying for special exam arrangements. Such requests must be made to the Student Experience – Academic (MBA) office at least ten (10) working days before the scheduled exam along with acceptable documentation. Instructors cannot themselves allow students to unofficially write make-up exams/tests. Adjudication of the request must be handled by Student Experience – Academic (MBA).

If a mid-term exam is missed without a valid reason, students will receive a grade of zero (0) for that component.

Missed Final Examinations

A student who misses a final examination without good reason will receive a mark of 0 on the examination.

All applications for deferred and special examination arrangements must be made to the Student Experience – Academic (MBA) office. Failure to meet the stated deadlines may result in the denial of these arrangements. Deferred examination privileges, if granted, must be satisfied during the examination period at the end of the following term. There will be one common sitting for all deferred exams.

Failure to write an approved deferred examination at the pre-scheduled time will result in a failure for that examination, except in the case of exceptional circumstances where documentation has been provided and approved. Upon approval, no credit will be given for the course, and the notation N.C. (no credit) will be placed on the student's transcript. Students receiving no credit for a required course must repeat the course. Optional or elective courses for which no credit is given may be repeated or replaced with another course of equal credit value.

Requests for a second deferral or rescheduling of a deferred examination will not be considered.

Any student who is unable to write a final examination because of illness is required to submit the Application for Deferred MBA Final Examination and a statement from a doctor certifying illness on the date of the examination. The Application for Deferred MBA Final Examination and the McMaster University Student Health Certificate can be found on the DeGroote website at <http://mbastudent.degroote.mcmaster.ca/forms-and-applications/> Please do not use the online McMaster Student Absence Form as this is for Undergraduate students only. Students who write examinations while ill will not be given special consideration after the fact.

In such cases, the request for a deferred examination privilege must be made in writing to the Student Experience – Academic (MBA) office within five business days of the missed examination.

Special examination arrangements may be made for students unable to write at the posted exam time due to compelling reasons (for example religious, or for part-time students only, work-related reasons):

- Students who have religious obligations which make it impossible to write examinations at the times posted are required to produce a letter from their religious leader stating that they are unable to be present owing to a religious obligation.
- Part-time students who have business commitments which make it impossible to write examinations at the times posted are required to produce a letter on company letterhead from the student's immediate supervisor stating that they are unable to be present owing to a specific job commitment.

In such cases, applications must be made in writing to the Student Experience – Academic (MBA) office at least ten business days before the scheduled examination date and acceptable documentation must be supplied.

If a student is representing the University at an academic or athletic event and is available at an overlapping scheduled time of the test/examination, the student may write the test/examination at an approved location with an approved invigilator, as determined by the Student Experience – Academic (MBA) office.

In such cases, the request for a deferred examination privilege must be made in writing to the Student Experience – Academic (MBA) office within ten business days of the end of the examination period.

Note: A fee of \$50 will be charged for a deferred exam written on campus and a fee of \$100 for deferred exams written elsewhere. In cases where the student's standing is in doubt, the Graduate Admissions and Study Committee may require that the student with one or more deferred examination privileges refrain from re-registering until the examination(s) have been cleared.

STUDENT ACCESSIBILITY SERVICES

Student Accessibility Services (SAS) offers various support services for students with disabilities. Students are required to inform SAS of accommodation needs for course work at the outset of term. Students must forward a copy of such SAS accommodation to the instructor normally, within the first three (3) weeks of classes by setting up an appointment with the instructor. If a student with a disability chooses NOT to take advantage of an SAS accommodation and chooses to sit for a regular exam, a petition for relief may not be filed after the examination is complete. The SAS website is:

<http://sas.mcmaster.ca>

POTENTIAL MODIFICATION TO THE COURSE

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.

ACKNOWLEDGEMENT OF COURSE POLICIES

Your registration and continuous participation (e.g. on A2L, in the classroom, etc.) to the various learning activities of MBA I603 will be considered to be an implicit acknowledgement of the course policies outlined above, or of any other that may be announced during lecture and/or on A2L. **It is your responsibility to read this course outline, to familiarize yourself with the course policies and to act accordingly.**

Lack of awareness of the course policies **cannot be invoked** at any point during this course for failure to meet them. It is your responsibility to ask for clarification on any policies that you do not understand.

TEAM WORK

A significant component of the evaluation of this class will be based on team work. In order to achieve the full benefits expected from working in a team and to be fair to fellow team members, all members are expected to contribute equally to team work and to be fully involved in all aspects of their team presentation. One negative aspect of working in teams is that conflict may arise among team members. Such conflict could negatively impact the progress of the team towards achieving its objectives. Hence, every effort should be made, by all team members to be reasonable and to avoid conflicts. Any team issues should be brought to the attention of Shamy as early as possible.

To encourage equal contribution to the group, peer evaluation will be used to assess each team member's work. Groups are encouraged to set some ground rules and expectations early in the term and to have short feedback sessions as necessary till the completion of the group assignment so that individuals are made aware if their input is less than expected by their team. The peer evaluation form (attached to this outline) should be submitted no later than 5:00 p.m. on November 13th via Avenue to Learn. If we do not receive your peer evaluation form, we will assume that you feel each member of the group contributed equally.

COURSE SCHEDULE

MBA I603
Competing through Digital Transformation & Analytics
Fall 2017 Course Schedule (Tentative)

WEEK	DATE	ASSIGNMENT
1 Shamy	Tue. Oct. 10 Wed. Oct. 11	Discuss: Course Overview, Outline, Schedule, Courseware Discuss: Selecting a case for the team presentation Lecture: IS Overview, IS & Strategy
	Thu. Oct. 12 Fri. Oct. 13	Lecture: IS Overview, IS & Strategy Cont'd Case Discussion: Supply Chain Management at Walmart
2 Shamy	Mon. Oct. 16 Tue. Oct. 17	Lecture: Excel for Decision Making Case Discussion: Williams Coffee Pub
	Wed. Oct. 18 Thu. Oct. 19	Lecture: Excel for Decision Making Cont'd Case Discussion: Williams Coffee Pub
3	Mon. Oct. 23	Lecture: Enterprise Systems

Shamy	Tue. Oct. 24	Case Discussion: TBD
	Wed. Oct. 25 Thu. Oct. 26	Lecture: Business Intelligence Case Discussion: TBD
4 Shamy	Mon. Oct. 30 Tue. Oct. 31	Lecture: Digital Transformation Case Discussion: Uber: Changing The Way The World Moves
	Wed. Nov. 1 Thu. Nov. 2	Lecture: Acquiring Information Systems Case Discussion: Developing Information Systems – An Exercise with Building Blocks
5 Shamy	Mon. Nov. 6 Tue. Nov. 7	Case 1 Team Presentations
	TBA	Case 2 Team Presentations
Part II: Competing through Analytics		
6 Verma	Nov. 13 th /14 th	<ul style="list-style-type: none"> • Introduction to Business Analytics • Analytics using Spreadsheets
	Nov. 15 th /16 th Nov. 20 th /21 st Nov. 22 nd /23 rd Nov.27 th /28 th	<ul style="list-style-type: none"> • Linear Programming: Basic Concepts • Linear Programming: Formulation and Applications
8 Verma	Nov. 29 th /30 th Dec.4 th /5 th	<ul style="list-style-type: none"> • Decision Analysis
9 Verma	Dec.6 th /7 th Dec.11 th /12 th	<ul style="list-style-type: none"> • Computer Simulation: Basic Concepts
10 Verma		

I603 – CONFIDENTIAL PEER EVALUATION FORM
Please submit by 5 pm Monday, Nov. 13, 2017

INSTRUCTIONS:

1. Please assign each person in your group an amount of money which **represents each individual's contribution to the presentation and written case analyses.**
2. Your total budget to distribute among the people in your group is \$1,000 x (the number of people in your group). For example, if there are five people in your group, then pretend that you have \$1,000 x 5 = \$5,000 to pay to the group.
3. If everyone contributed equally, then pay each person \$1,000.
4. Adjust the fee according to your honest personal assessment of the value of each person's contribution including yours. In our example, the fee could be as low as \$0 or as high as \$5,000.
5. Your evaluation is to be done by you **with no consultation with others in your group or from other groups.**
6. In most cases, these evaluations will be valuable input to your professor in allocating marks for your group assignments. However, your professor might not use the evaluations under some circumstances.
7. TREAT THIS EVALUATION SERIOUSLY.
8. MAKE SURE THAT THE FEES PAID ADD TO \$1,000 x GROUP SIZE.

NAME: _____ COHORT: _____ GROUP NUMBER: _____

GROUP ACTIVITY: _____

Name	Fee	Any comments or explanation