

K650 – Winter 2024 (1 of 12)



BusAdm K650 Information Systems in Business Winter 2024 Course Outline Information Systems (IS) Area DeGroote School of Business McMaster University

COURSE OBJECTIVE

This course introduces students to fundamental concepts of IS/IT; it emphasizes an integrated learn-byparticipation approach to draw insights from and share logical thinking about past, current and future potential developments of, or critical issues relating to, IS/IT applications in the context of Digital Health/Business developments/trends. The role and importance of experiential learning in IS/IT as relates to eHealth/eBusiness across a variety of organizational functions will be examined. More specifically, students will participate actively via a series of case analyses and presentations to contribute to new thinking in eHealth/eBusiness systems, including IS/IT theoretical concepts, methods, and applications linked to past, current, and future innovations, and trends-developments such as AI and social media networks, quantum computing, wearables and robotics.

INSTRUCTOR AND CONTACT INFORMATION

MBA K650 Dr. Joseph Tan Instructor tanjosep@mcmaster.ca Office: RJC 256; By Arrangements Office Hours: Via virtual appointments TAs for MBA K650 Tripatjot Kaur (Readings/Exam) Email: kaurt18@mcmaster.ca Akshay Sharma (Cases) Email: <u>shara215@mcmaster.ca</u> RJC 214: Tuesday 7:00 pm – 10:00 pm

Guest Lecturers: May be scheduled from time to time either for physical or via Zoom classes depending on weather, convenience and availability of speakers; however, no more than two (2) separate class sessions will be allocated for this purpose; see Schedule or consult A2L.

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	Guest Speaker(s)	Yes	Final Exam:	No

COURSE DESCRIPTION

This course is taught primarily in-person (with needed online sessions only for speakers as arranged or for interactions of student(s) with TA/Instructor on course projects; cases or, when severe weather, labor strike and virus outbreaks prevent convenient physical gatherings). Unlike traditional lectures, however, the class format is designed for active participation from students contributing to discussions on eBusiness/eHealth IS/IT innovations/trends illustrated with cases. Missing in-class/online discussions will impact on one's total grade as only up to 50% of course grade will be group-based; the rest, individually targeted.

A key course objective is to foster acute skills critical for students in presenting/writing about new ideas, cases, and responding individually or as a group to in-depth interviews. Topics related to digital IS/IT innovations that students have reviewed in detail plus discussions of relevant cases to specific areas via co-presentations of instructor/TA, colleagues-classmates, visiting experts, and the contributions of reviews/cases both individually and/or via groups will be the routine order of each class session.

Specific Topics include, but not limited to:

- Taxonomies of Digital Business/Health IS/IT Perspectives (& Self-reflections on such taxonomies)
- IS/IT Strategic Analysis & Maturity Formulation (Stages of Growth) via Case Analysis
- IS/IT Frameworks, Innovation Models & Assessing opportunities for Digital Business/Health Apps
- Emerging Quantum Computing Apps, Devices, Architectures/Infrastructures
- IS/IT Commercialization, Venture Capital & Organizational Issues
- IS/IT Analytics, Metrics & Formative/Summative Evaluations
- IS/IT Project Procurements, Socio-Political and Implementation Issues
- IS/IT Privacy, Confidentiality, Security, Ethical, Legal & Regulatory Issues
- Innovative Business Solutions via Quantum/Digital IS/IT (problem solving v. decision making) Cases
- Future of IS/IT, including AI, quantum computing and robotics, smart homes and more (e.g., self-care management)

LEARNING OUTCOMES

Upon successful completion of this course, students should be able to complete the following:

- A. Write individual reviews/reflections; work effectively individually or with others to research, analyze and present relevant cases applicable to the concepts being advanced.
- B. Assume the role of the decision maker/s or consultant to key stakeholder(s) in various organizational situations to perform:
 - 1. Assess business IS/IT models, strategies of Digital Business/Health initiatives, and/or other commercial ventures in various stages of maturity.
 - 2. Assess situations facing organizations to identify critical issues, and priorize these in terms of urgency-importance towards successfully developing/deploying Digital Solution(s).
 - 3. Assess the health of a business organization setting via a variety of frameworks/metrics (e.g. PEST, Porter's five forces, SWOT) in addition to managerial accounting/finance and HR principles.
 - 4. Leverage organizational/innovation principles to generate alternatives to address the identified issues in various situations-contexts to prepare for adopting eBusiness/eHealth solutions.
 - 5. Identify valid criteria for comparing the generated alternatives to select the ones that are most suited for the situation at hand.
 - 6. Draw a realistic action plan to implement the selected alternatives.
 - 7. Draw a contingency plan to address any potential risks during the execution of the action plan.
 - 8. Professionally present the above analysis and action plan.
- C. Develop a final (case-based) project with group members' critical input of a real-world scenario, strategies & evaluation to professionally present solution(s) to resolve in competitive situations.

REQUIRED COURSE MATERIALS & READINGS

- 1. Texts:
 - a. *Digital Health Care (Olla-Tan eds) Part 5 of this text contains a variety of selected cases* which can be adapted/used as examples when presenting your topics (**Required**)
 - b. Learning With Cases *Mauffette-Leenders*, et al., 1997, Richard Ivey School of Business (Optional);
- 2. Additional readings will be made available to students via A2L or via instructor's direct emails/postings. Students are expected to read the texts (as per schedule) prior to class-time.

COURSE OVERVIEW & ASSESSMENT

For optimal learning within a simulated hands-on environment, all assigned text/case readings are expected to be completed **prior to in-class discussions**. *Random "cold calls" on any student may occurred regardless if s/he was assigned to present during specific class session(s)*. Otherwise, deliverables include individual v. group slides/reports/reviews will be due prior to being presented; notably, all presentation *slides*, and all diagrams/exhibits of submitted reviews claimed as part of the student(s)" work *will be voided if/or plagiarized*; therefore, *all source(s) must be clearly identified & duly acknowledged* prior to presenting with timely submission(s) to A2L – **late** submissions will **not** be graded. For all individual reviews/group reports on any assigned topic(s)/case(s), student(s) are encouraged to *self-create* "adaptive" theoretical framework(s), explanatory diagram(s), methodological evaluation(s) and/or illustrative solution(s) to earn **high grades**. To aid instructor assign appropriate in-class participation marks, all students must display a name tag for all classes; failing to do so, may lead to zero participation grade.

The instructor oversees all in-class debates/discussions and tracks weekly attendance to assign participation grades with *zero toleration for plagiarists (copycats)*. For all assigned individual/group presentations, slides are due prior to class. Questions relating to cases *may or may not* be posed for debates. This year, MBA K650 delivery comprises three (3) major parts.

Part-1 (Jan-Feb) focuses on active reading of the required text. Referenced papers, individual contributions via a topical review or online reflections, including analysis & critique of past IS/IT contributions, published or unpublished including cases, emphasizing selected *topics may be assigned for individual-team presentations*. Mid-Term, covering only readings prior to mid-term as scheduled, will be held just after reading week with grades and feedback to students following submission of student's drafted topical reviews as scheduled.

Part-2 (Mar), emphasizes more complex individual/group-led cases requiring in-depth group thinking, debating and detailed reporting. Individual/Group reports must provide a rationalized view of the opportunities, challenges, and risks within IS/IT organizational and innovation context, and prioritize key issues linked to well-articulated criteria alongside their envisioned recommended solution among alternatives and contingency plan(s). Students work in groups of no more than 6 students (3-6 students in a group) to analyze the assigned case and formulate their evaluations and strategic plans, resulting in a group case report to be graded by the TA.

Following mid-term, running in parallel to reading week & Part-2 of the course, **Part-3 (Mar-Apr)**, comprises developmental work for a specific case project as part of a class competition, contributing to analytical insights while leveraging learning throughout the entirety of the course. All final IS/IT case projects must be approved by the instructor and will be peer-reviewed, as well as commented by the TA, resulting in a final case submission with a guidance piece (of publishable quality) to be graded by the TA (oversee by the instructor). Missed tests/submissions on due dates will receive a grade of zero unless the

student has submitted and been approved for a Notification of Absence or MSAF. Late assignments will be penalized 100% and not be graded.

Learning in this course will occur largely through essays (publishable reflections), case analysis and debates, with independent (individualized) v. group participation and/or reporting. Whenever possible, feedback and exchanges on cases of varying length and projects within the assigned topical domains will serve to evaluate performance of participating students. The mid-term comprises a series of short Q & A plus longer Open questions and a take home portion of mini-cases to complement the case analysis exercises. The components of each student's grade will be as follows, adjusted for peer evaluation:

Your final grade will be computed as tabulated:

Grade Component	Weight	Description
Engagement/Ind. Class Presentations of Contributed Reviews (Parts 1-3)	15%	 3% Attendance (individual-based) 5% individual reflections to discussions 7% individual presentation(s) of Topical Reviews.
Essay – Individual Review (Part -1) Due: Following reading week as scheduled	15%	Based on an assigned topic, the student must pen a 2,200 - 2,450 reflection on (i) classical IS/IT developments and lessons learned (4%); (ii) current IS/IT digital developments or applications known (4%); and (iii) future IS/IT innovations and quantum IS/IT applications (4%) – all of which with integrative examples (minicases) embedded in the review (use assigned readings to model your own review contributions). The rest of 3% will go to overall appeal, general layout, and relevance/currency of citations.
Mid-term (Part-1) Date: Likely to be post- reading week	20%	Individual-based – two parts: (a) in-class with short Q&A on the relevant readings, including the provision of responses to a series of open questions (10%); and (b) a 48-72 hour take-home multi (mini-)cases analysis (10%).
Group Case Analysis/Report (Part-2: as per class schedule)	20%	10% Group Case Presentation of Assigned Cases 10% Team (A, B, C and D) Case Report
Group Final Case Project (Part-3: as per class schedule)	30%	15% Group Final Case Project 15% Team (3-6 people) Final Presentation
Bonus activities	0%-2%	Individuals who exceeded expectations with in-class/online activities may be given bonuses to adjusting their "attained grades" up to 2% of total grade to assist a student moves from one letter grade up with the TA suggestions/Instructor's observations.

COURSE DELIVERABLES

Individual Attendance, Engagements & Presentations in Classes & Discussions – 15% of course grade To earn participation marks, you must showcase your name cards in class (with photos online) to ascertain identification for credits earned as part of course requirement. Simply, the instructor will rely on posted photographs to ensure the accuracy of participation marks, group work, and for identifying individual contributions from students for ongoing grading purpose(s).

Individual Review Contributions

Assignment #1 – Reflective Essay

This assignment is worth 15% of your final grade; it will be marked individually. You will read the assigned chapters and do research on topics related to your liking, assemble your own thinking on the assigned topic, develop your review(s) with questions for readers, discuss key aspects of future of IS/IT based on past understanding of the topic, emphasizing current developments and applications that are deemed relevant but still challenged the status quo. You should also identify these challenges that will lead to (future) developments in the IS/IT areas. Your essay must be between 2,200 to 2,450 words.

Mid-Term

Part #1 – Short & Longer Responding Exam Q&A

This is a Q & A examination for two hours that accounts for **10%** of your final grade. The in-class portion is a **closed-book** exam. You will be expected to have mastered all assigned readings from the required text plus any A2L posted readings/class presentations prior to Mid-Term.

Part #2 – Case Exam Take-Home for 48 hours

This is a take home multi (mini-)case exam, which will ask specific questions relating to the selected case(s) as there will be multiple case(s). This part accounts for **10%** of your total grade. You will be responsible for reading, analyzing, and typing up an IS/IT solution to the case, which must be completed individually.

Teamwork Participation (50% of Total Course Grade)

Group Case Presentation

This is a fuller, more complex case analysis worth **20%** of course grade vis-à-vis a team of 3-6 members collaborating in the case analysis work depending on class size. Key skills include the ability to think and *influence* others, showcasing your own contributions (slides) while interacting with other members to overcome all technical issues faced in the delivery, including being aware of others' feeling and reactions towards your presentation and the ability to respond to questions raised. Your group must also do background research and project current/future developments beyond the case to score **high marks**.

Final Course Project

This final case project is intentionally cumulative, and is worth **30%** of total grade – past cases of MBA students may be shared with the class – the idea is to generate a "publishable" case worth 15% of final grade (see also published cases in the textbook assigned for this course; as well, 15% additional grade is allocated to having the project professionally presented to an audience comprising the instructor, TA(s), classmates or other invites – assessment will be peer-based. The written case must also have a logic guiding document to showcase its purpose, potential case questions to be asked and the real-life lessons to be learned.

If you are conducting original research, it is vital that you behave ethically. For example, everyone you speak to must be made aware of your reasons for eliciting their responses and consent to providing information. Further, you must ensure everyone understands that participation is entirely voluntary. Please

refer to the following website for more information about McMaster University's research ethics guidelines: http://www.mcmaster.ca/ors/ethics/students_intro.htm

Organizations that you are working with are likely to prefer that some information be treated as confidential. For any approach to collect data from human subjects, you must consult your instructor before undertaking any such study.

POTENTIAL MODIFICATIONS 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.

COMMUNICATION AND FEEDBACK

Students who wish to correspond with instructors or TA(s) 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 Area Administrative Assistants. All students must receive feedback regarding their progress prior to the final date by which a student may cancel the course without failure by default. *For Level 1 and Level 2 courses, this feedback must equal a minimum of 20% of the final grade. For Level 3 courses and above, this feedback must equal a minimum of 10% of the final grade.*

Instructors may solicit feedback via an informal course review with students by Week #4 to allow time for modifications in the curriculum delivery.

REQUESTING RELIEF FOR MISSED ACADEMIC WORK

In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar <u>"Requests for Relief for Missed Academic Term Work"</u> and the link below;

http://ug.degroote.mcmaster.ca/forms-and-resources/missed-course-work-policy/

ACADEMIC INTEGRITY

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. **It is your responsibility to understand what constitutes academic dishonesty.**

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.

For information on the various types of academic dishonesty please refer to the <u>Academic Integrity</u> <u>Policy</u>, located at https://secretariat.mcmaster.ca/university-policies-procedures- guidelines/

The following illustrates only three forms of academic dishonesty:

- plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
- improper collaboration in group work.
- copying or using unauthorized aids in tests and examinations.

AUTHENTICITY/PLAGIARISM DETECTION

Some courses may use a web-based service (Turnitin.com) to reveal authenticity and ownership of student submitted work. For courses using such software, students will be expected to submit their work electronically either directly to Turnitin.com or via an online learning platform (e.g. A2L, etc.) using plagiarism detection (a service supported by Turnitin.com) so it can be checked for academic dishonesty.

Students who do not wish their work to be submitted through the plagiarism detection software must inform the Instructor before the assignment is due. No penalty will be assigned to a student who does not submit work to the plagiarism detection software.

All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., on-line search, other software, etc.). For more details about McMaster's use of Turnitin.com please go to www.mcmaster.ca/academicintegrity.

COURSES WITH AN ON-LINE ELEMENT

Some courses may use on-line elements (e.g. email, Avenue to Learn (A2L), web pages, TopHat, MS Teams, etc.). Students should be aware that, when they access the electronic components of a course using these elements, 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 a course that uses on-line elements will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

ONLINE PROCTORING

Some courses may use online proctoring software for tests and exams. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/software during tests or exams. This software may be required to be installed before the test/exam begins.

CONDUCT EXPECTATIONS

As a McMaster student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described in the <u>Code of Student Rights & Responsibilities</u> (the "Code"). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, **whether in person or online**.

It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviours that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students' access to these platforms.

ACADEMIC ACCOMMODATION OF STUDENTS WITH DISABILITIES

Students with disabilities who require academic accommodation must contact <u>Student Accessibility</u> <u>Services</u> (SAS) at 905-525-9140 ext. 28652 or <u>sas@mcmaster.ca</u> to make arrangements with a Program Coordinator. For further information, consult McMaster University's <u>Academic Accommodation of</u> <u>Students with Disabilities</u> policy.

ACADEMIC ACCOMMODATION FOR RELIGIOUS, INDIGENOUS OR SPIRITUAL OBSERVANCES (RISO)

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the <u>RISO</u> policy. Students should submit their request to their Faculty Office *normally within 10 working days* of the beginning of term in which they anticipate a need for accommodation <u>or</u> to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

COPYRIGHT AND RECORDING

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical and artistic work, **including lectures** by University instructors.

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution, or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

EXTREME CIRCUMSTANCES

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, A2L and/or McMaster email.

RESEARCH USING HUMAN SUBJECTS

All researchers conducting research that involves human participants, their records or their biological material are required to receive approval from one of McMaster's Research Ethics Boards before (a) they can recruit participants and (b) collect or access their data. Failure to comply with relevant policies is a research misconduct matter. Contact these boards for further information about your requirements and the application process.

McMaster Research Ethics Board (General board): https://reo.mcmaster.ca/ Hamilton Integrated Research Ethics Board (Medical board): http://www.hireb.ca/

ACKNOWLEDGEMENT OF COURSE POLICIES

Your enrolment in eHealth 745 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.

K650 COURSE SCHEDULE Information Systems in Business Winter 2024

#	Date	Торіс	Case Presentations	Deliverables
1	Tuesday Jan9 RJC	 Course introduction/outline Digital eHealth/eBusiness Concepts/Developments Innovation & Regenerative Sustainability theme Reviews from individuals; discuss examples of case projects. 	Tentative Schedule Charting A Roadmap for	Forming groups & assigning topics– each group comprising 3-6 members Analyze the evolution and scope of DHI Evaluate key concepts and terminologies.
2	Tuesday	Choosing a Topic for a Reflective Review/Paper v. How Cases are Read, Analyzed & Reported – Developing your own real-life cases (Part 2 is hosted by the TA) Research Organize Thoughts & Layout Questions/Responses		Group Case Collaboration, Analysis & Reporting Synthesize the principles of health informatics Critique various models and frameworks.
3	Tuesday Jan23 RJC	• Structuring a good review & writing a comprehensive case report & What's involved in K650 Final Case Project?	Digitizing the Medical Record - <i>Chp</i> 4, <i>pp</i> . 35-74;	Assess the role of databases in healthcare Compare different types of healthcare databases. Appraise the transition to digital medical records Design a model for effective digital record keeping;
4	Tuesday Jan30 RJC Zoom for Guests	Guest Speaker on Pan-Ontario TeleMedicine Project (Dr. Bharat, TBD) *Topic to be finalized	Healthcare - <i>Chp 5, pp. 77-</i> 90	Overview AI in Health Care Analyze ethical, equity, and privacy issues in public health informatics Propose solutions for these issues.
5	Tuesday Feb6 RJC	 Digital Health Technology, Innovation & Challenges - Individual Verbal (Ind. Slides due) of Topic Presentations – 15 minutes presentation limit for each person plus Q&A (5 minutes) 	134	Group (1/3) - Present Group (2/4) Present

	Tuesday Feb13 RJC	• Individual Verbal (Ind. Slides due) of Topic Presentations continued	Cup 12, pp. 175-187	Group (3/1) Present Group (4/2) Present
7		Online Mid-Term Feedback & Evaluation – STOP n' GO; Reading Week; Groups finalized to generate proposals for final course projects to be submitted for online discussions with TA/Instructor	Proposal for final Course Projects must be approved prior to visiting real-world site for a case development	Project Proposal Approval via online
	Tuesday Feb27 RJC	 Mid-Term: A few short & longer essay questions + Unannounced Mini-Cases (TAKE-HOME) 	Exam to be released at 11:30 am with Q&A due @ 1:45am Feb 27 (Partly online)	Scope of Exam: Part I : <i>Chps 1-6; 8-9; 12-13</i> (text) Part II : 48-hour take-home cases to be studied/analyzed due 10:00pm February 29 th , 2024
	Tuesday Mar5 RJC	Adoption of Innovation; New Challenges & Strategies IS/IT Leadership & Sustainability Issues	Blackbelly	Group 1-Present/3-Report Group 2-Present/4-Report
	Tuesday Mar12 RJC	Other IS/IT Leadership & Sustainability Issues Ethical Commercialization Thinking; Privacy, Security, Legislation & Regulation	Theranos	Group 3-Present/1-Report Group 4-Present/2-Report
11	Tuesday Mar19 RJC	 Feedback on Mid-Term Exam Speaker (Dr. M. Dohan) Real-World Project Site(s) - Data Gathering; Preparation for Final Projects; Feedback on how final projects may be improved to all groups 		Group-TA/Instructor Virtual Meetings only with consults if needed.
	Tuesday <mark>Mar26</mark> RJC	• Real-World Project Site(s) - Data Gathering; Preparation for Final Projects; Feedback on how final projects may be improved to all groups	final project presentation	Group-TA/Instructor Virtual Meetings only with consults if needed.

	All slides for all case projects to be submitted prior to class	Presentation slides must be submitted prior to final project presentations	Groups 4/2 final case project presentations TA will be present to listen in on these presentations
14	•Closure on Final Projects & Interactions with TA/Instructor on final submissions	All Individual Reviews /Group Reports due or will not be graded.	Groups 3/1 final case project presentations TA will be present to listen in on these presentations Final Case Project reports due in 14 working days.