

**School of Health Policy and Management Faculty of Health
York University**

Course Title:	Disability in an Age of Information Technology
Course Code:	GS/CDIS 5060 3.0, Section A
Term:	WINTER 2020
Class Time:	Wednesdays 2:30 p.m. – 5:30 p.m.
Location:	VH 1156
Course Director:	Professor Christo El Morr
Office location:	HNES 412
Email:	elmorr@yorku.ca
Teaching Assistant(s):	Available on Moodle
Office Hours:	Wednesday 1:30pm – 12:30pm or by appointment
Prerequisite:	NA
Course credit exclusion:	None

Course Description:

This course examines concepts and experience of disability in relation to recent innovations in information technology and communicative innovation. Emphasis will be placed on relationships between technological innovation and societal definition of disability; the dissemination of information; the potential of new technology for empowerment/disablement, and on issues of technological research ethics.

Course Learning Outcomes:

Upon completion of this course, the student will demonstrate the ability to:

1. Explain the history and evolution of Information Technology
2. Understand the benefits and risks of Information Technology
3. Explain current and emergent challenges in health Informatics
4. Explain The different fields of studies in Disability Informatics
5. Analyze the advantages and limitations of IT applications for people with disabilities
6. Propose solutions to overcome shortcomings in the current views in IT and disability
7. Provide a critical assessment of Information Technology approaches to disability

Required Textbook: N/A

Supplemental reading: N/A

Course website:

The [Moodle website](#) will host the course materials; it is where you need to go to engage in any online sessions outlined in the course schedule

- videos
- course outline
- slides from the lectures (usually available at least one day before the lecture)
- any other material for the course (links to readings, multimedia)
- any announcements about the course

Class Format and Evaluation

This course is offered in-class. It will consist of lectures, class discussions, case studies. Students are expected to attend the classes and to prepare for each class by reading the articles provided on the course website, and to actively participate in class discussions. Moreover, students are required to make weekly presentations on virtual communities and to produce and present a research paper.

Assessments/Evaluation: (see below for full description)

Assessment	% of Total Course Grade	Due Date	Date Grade Returned to Student
Class participation (online/offline)	15%	Weekly	A Week after Submission
Online reflection	20%	Weekly	A Week after the Reflection
In-class Topic Presentation	25%	Weekly starting week 3	A Week after the Activity
Research Proposal (Draft)	10%	Week 5	A Week after submission
Research Proposal (final)	30%	April 7th, 2019	Two weeks after submission

The course requirements and weights are final and will not to be modified throughout the term.

You will be expected to attach an Assignment Attachment Form (on the last page) to each assignment and essay submitted.

Students must review and comply with the interactive [on-line Tutorial on academic integrity](#) and then take a [self-test](#)

Note: Late assignments and papers will be penalized with 10% off for every day of delay (including weekends).

Course Schedule

UNIT 1: Background

Week 1 - Chapter 1: Introduction to Information Technology

Required Readings

Haigh, T. (2011). The history of information technology. *Annual Review of Information Science and Technology*, 45(1), 431-487. doi:10.1002/aris.2011.1440450116

Copeland, B. J. (2008). The Modern History of Computing. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy: Metaphysics Research Lab, Stanford University*.

[The Modern History of Computing](#)

Recommended Readings

Winston, B. (2002). Chapter 12: The coming of the microcomputer Media, Technology and Society: A History: From the Telegraph to the Internet: Taylor & Francis.

Week 2 - Chapter 2: Introduction to Health Informatics Research and Ethics

Required Readings

Barnett, G. O. (1987). History of the development of medical information systems at the Laboratory of Computer Science at Massachusetts General Hospital. Paper presented at the Proceedings of ACM conference on History of medical informatics, Bethesda, Maryland, USA.

Collen, M. F., & Shortliffe, E. H. (2015). The Creation of a New Discipline. In M.

F. Collen & M. J. Ball (Eds.), *The History of Medical Informatics in the United States*: Springer London.

Recommended Readings

Liyanage, H., Liaw, S. T., Di Iorio, C. T., Kuziemy, C., Schreiber, R., Terry, A. L., & de Lusignan, S. (2016). Building a Privacy, Ethics, and Data Access Framework for Real

World Computerised Medical Record System Data: A Delphi Study. Contribution of the Primary Health Care Informatics Working Group. Yearb Med Inform(1), 138-145.
doi:10.15265/iy-2016-035

Phillips, W. (2015). Ethical controversies about proper health informatics practices. *Mo Med*, 112(1), 53-57.

Layman, E. (2003). Health informatics: ethical issues. *Health Care Manag (Frederick)*, 22(1), 2-15.

Fierbeck, K. (2011). *Health Care in Canada: A Citizen's Guide to Policy and Politics*: University of Toronto Press.

Meslin, E. M., Alpert, S. A., Carroll, A. E., Odell, J. D., Tierney, W. M., & Schwartz, P. H. (2013). Giving patients granular control of personal health information: using an ethics 'Points to Consider' to inform informatics system designers. *Int J Med Inform*, 82(12), 1136-1143. doi:10.1016/j.ijmedinf.2013.08.010

Week 3 - Chapter 3: Disability Informatics

Required Readings

Appleyard, R. (2005). Disability Informatics. In D. Lewis, G. Eysenbach, R. Kukafka, P. Z. Stavri, & H. B. Jimison (Eds.), *Consumer Health Informatics: Informing Consumers and Improving Health Care* (pp. 129-142). New York, NY: Springer New York.

Betania, G., Thais, P., & Laura, N. (2011). Assistive Technologies, Tools and Resources for the Access and Use of Information and Communication Technologies by People with Disabilities. In P. Javier (Ed.), *Handbook of Research on Personal Autonomy Technologies and Disability Informatics* (pp. 1- 15). Hershey, PA, USA: IGI Global.

Recommended Readings

Martine, S., & Janice, M. (2011). Augmentative and Alternative Communication Devices: The Voices of Adult Users. In P. Javier (Ed.), *Handbook of Research on Personal Autonomy Technologies and Disability Informatics* (pp. 46-59). Hershey, PA, USA: IGI Global.

Simon, H., & Yeliz, Y. (2011). Web Accessibility: Current Trends. In P. Javier (Ed.), *Handbook of Research on Personal Autonomy Technologies and Disability Informatics* (pp. 172-190). Hershey, PA, USA: IGI Global

UNIT 2: Disability Informatics Fields

Week 4 - Chapter 4: IT and Rehabilitation

Required Readings

Bustamante Valles, K., Montes, S., Madrigal, M. d. J., Burciaga, A., Martínez, M. E., & Johnson, M. J. (2016). Technology-assisted stroke rehabilitation in Mexico: a pilot randomized trial comparing traditional therapy to circuit training in a Robot/technology-assisted therapy gym. *Journal of NeuroEngineering and Rehabilitation*, 13, 83. doi:10.1186/s12984-016-0190-1

Gibson, G., Dickinson, C., Brittain, K., & Robinson, L. (2015). The everyday use of assistive technology by people with dementia and their family carers: a qualitative study. *BMC Geriatrics*, 15, 89. doi:10.1186/s12877-015-0091-3

Recommended Readings

Koh, G. C.-H., Yen, S. C., Tay, A., Cheong, A., Ng, Y. S., De Silva, D. A., . . . Hoenig, H. (2015). Singapore Tele-technology Aided Rehabilitation in Stroke (STARS) trial: protocol of a randomized clinical trial on tele-rehabilitation for stroke patients. *BMC Neurology*, 15, 161. doi:10.1186/s12883-015-0420-3

Thota, H., Appa Rao, A., Kumar Reddi, K., Akula, S., Babu Changalasetty, S., & Srinubabu, G. (2007). Alzheimer's disease care and management: Role of information technology. *Bioinformatics*, 2(3), 91-95.

Week 5 - Chapter 5: IT and Augmentative and Alternate Communication (AAC)

Required Readings

Bunning, K., Gona, J. K., Newton, C. R., & Hartley, S. (2014). Caregiver Perceptions of Children who have Complex Communication Needs Following a Home-based Intervention Using Augmentative and Alternative Communication in Rural Kenya: An Intervention Note. *Augmentative and Alternative Communication*, 30(4), 344-356. doi:10.3109/07434618.2014.970294

Lacono, T., Trembath, D., & Erickson, S. (2016). The role of augmentative and alternative communication for children with autism: current status and future trends. *Neuropsychiatric Disease and Treatment*, 12, 2349-2361. doi:10.2147/NDT.S95967

Recommended Readings

Lopresti, E. F., Jinks, A., & Simpson, R. C. (2015). Consumer Satisfaction with Telerehabilitation Service Provision of Alternative Computer Access and Augmentative and Alternative Communication. *International Journal of Telerehabilitation*, 7(2), 3-14. doi:10.5195/ijt.2015.6180

Hemsley, B., Balandin, S., Palmer, S., & Dann, S. (2017). A call for innovative social media research in the field of augmentative and alternative communication. *Augment Altern Commun*, 33(1), 14-22. doi:10.1080/07434618.2016.1273386

Week 6 - Chapter 6: IT and Assistive Technology (AT)

Required Readings

Johnson, M., Lapkin, S., Long, V., Sanchez, P., Suominen, H., Basilakis, J., & Dawson, L. (2014). A systematic review of speech recognition technology in health care. *BMC Medical Informatics and Decision Making*, 14, 94. doi:10.1186/1472-6947-14-94

Vogel, M., Kaisers, W., Wassmuth, R., & Mayatepek, E. (2015). Analysis of Documentation Speed Using Web-Based Medical Speech Recognition Technology: Randomized Controlled Trial. *Journal of Medical Internet Research*, 17(11), e247. doi:10.2196/jmir.5072

Recommended Readings

Alam, M. M., & Ben Hamida, E. (2014). Surveying Wearable Human Assistive Technology for Life and Safety Critical Applications: Standards, Challenges and Opportunities. *Sensors (Basel, Switzerland)*, 14(5), 9153-9209. doi:10.3390/s140509153

Andreoni, G., Mazzola, M., Perego, P., Standoli, C. E., Manzoni, S., Piccini, L., & Molteni, F. (2014). Wearable Monitoring Devices for Assistive Technology: Case Studies in Post-Polio Syndrome. *Sensors (Basel, Switzerland)*, 14(2), 2012-2027. doi:10.3390/s140202012

READING WEEK – Feb 17 2020

Week 7 - Chapter 7: Universal Design, Usability and accessibility

Required Readings

Grudin, J. (2011). Human-computer interaction. *Annual Review of Information Science and Technology*, 45(1), 367-430. doi:10.1002/aris.2011.1440450115

Gray, J. A., Zimmerman, J. L., & Rimmer, J. H. (2012). Built environment instruments for walkability, bikeability, and recreation: disability and universal design relevant? *Disabil Health J*, 5(2), 87-101. doi:10.1016/j.dhjo.2011.12.002

Recommended Readings

Lid, I. M. (2014). Universal Design and disability: an interdisciplinary perspective. *Disabil Rehabil*, 36(16), 1344-1349. doi:10.3109/09638288.2014.931472

Smith, S. J., & Lowrey, K. A. (2017). Applying the Universal Design for Learning Framework for Individuals With Intellectual Disability: The Future Must Be Now. *Intellect Dev Disabil*, 55(1), 48-51. doi:10.1352/1934-9556-55.1.48

Week 8 - Chapter 8: Web Accessibility Initiative and Web Content Accessibility Guideline

Required Readings

Yang, Y. T., & Chen, B. (2015). Web Accessibility for Older Adults: A Comparative Analysis of Disability Laws. *Gerontologist*, 55(5), 854-864. doi:10.1093/geront/gnv057

Recommended Readings

Iyad Abu, D. (2014). Web Accessibility for Persons with Motor Limitations. In K. Georgios (Ed.), *Disability Informatics and Web Accessibility for Motor Limitations* (pp. 234-262). Hershey, PA, USA: IGI Global.

John, W. (2006). Improving Web Accessibility for the Visually Impaired. *Library Hi Tech News*, 23(8), 29-31.

UNIT 3: Disability Informatics: Social and Ethical Challenges

Week 9 - Chapter 9: Health Monitoring and Tele-rehabilitation

Required Readings

Health Monitoring

Asano, M. (2008). Smart Technology for Aging, Disability, and Independence: The State of the Science. *Physiotherapy Canada*, 60(2), 193- 193. doi:10.3138/physio.60.2.193

Banaee, H., Ahmed, M. U., & Loutfi, A. (2013). Data Mining for Wearable Sensors in Health Monitoring Systems: A Review of Recent Trends and Challenges. *Sensors (Basel, Switzerland)*, 13(12), 17472-17500. doi:10.3390/s131217472

Tele-rehabilitation

Zanaboni, P., Hoaas, H., Aaroen Lien, L., Hjalmsen, A., & Wootton, R. (2017). Long-term exercise maintenance in COPD via telerehabilitation: a two-year pilot study. *J Telemed Telecare*, 23(1), 74-82. doi:10.1177/1357633X15625545

Paneroni, M., Colombo, F., Papalia, A., Colitta, A., Borghi, G., Saleri, M., Vitacca, M. (2015). Is Telerehabilitation a Safe and Viable Option for Patients with COPD? A Feasibility Study. *COPD*, 12(2), 217-225. doi:10.3109/15412555.2014.933794

Recommended Readings

Walsh, S., Golden, E., & Priebe, S. (2016). Systematic review of patients' participation in and experiences of technology-based monitoring of mental health symptoms in the community. *BMJ Open*, 6(6), e008362. doi:10.1136/bmjopen-2015-008362

Muscio, C., Tiraboschi, P., Guerra, U. P., Defanti, C. A., & Frisoni, G. B. (2015). Clinical trial design of serious gaming in mild cognitive impairment. *Frontiers in Aging Neuroscience*, 7, 26. doi:10.3389/fnagi.2015.00026

Bul, K. C. M., Kato, P. M., Van der Oord, S., Danckaerts, M., Vreeke, L. J., Willems, A., Maras, A. (2016). Behavioral Outcome Effects of Serious Gaming as an Adjunct to Treatment for Children With Attention- Deficit/Hyperactivity Disorder: A Randomized Controlled Trial. *Journal of Medical Internet Research*, 18(2), e26. doi:10.2196/jmir.5173

Week 10 - Chapter 10: Technological innovation and societal definition of disability: A Critical Assessment

Required Readings

Lewthwaite, S. (2014). Web accessibility standards and disability: developing critical perspectives on accessibility. *Disabil Rehabil*, 36(16), 1375-1383. doi:10.3109/09638288.2014.938178

Recommended Readings

Wise, P. H. (2012). Emerging technologies and their impact on disability. *Future Child*, 22(1), 169-191.

Al Zidjaly, N. (2011). Managing Social Exclusion through Technology: An Example of Art as Mediated Action. *Disability Studies Quarterly*, 31(4).

Week 11 - CHAPTER 11: ONLINE SOCIAL MOVEMENT

Required Readings

Hara, N., & Huang, B.-Y. (2011). Online social movements. *Annual Review of Information Science and Technology*, 45(1), 489-522. doi:10.1002/aris.2011.1440450117

Cammaerts, B. (2015). [Social media and activism](#). In R. Mansell & P. Hwa (Eds.), *The International Encyclopedia of Digital Communication and Society* (pp. 1027-1034). Oxford, UK Wiley-Blackwell.

Recommended Readings

Shah, V., Sivitanides, M., & Mehta, M. (2013). The era of digital activism. *International Journal of Information Technology, Communications and Convergence*, 2(4), 295-307. doi:10.1504/IJITCC.2013.059409

Lewis, K., Gray, K., & Meierhenrich, J. (2014). The Structure of Online Activism. *Sociological Science*(February 18, 2014).

Week 12 - RESEARCH PAPER PRESENTATIONS

Policy on Requesting Make-Up Examinations & Late Assignment Submissions

What to submit?

All request forms and supporting documents must be submitted in **hardcopy in their original form. Scanned/faxed/photographed copies are not accepted.**

The instructor and the School of Health Policy & Management have the right to request valid supporting documents. **All supporting documents are non-returnable.**

Examples include:

Medical Circumstances

- [Attending Physician's Statement](#)

NOTE 1: Other forms of medical notes are **not** accepted.

NOTE 2: A student claim of a headache, stomach ache, nausea or cold documented in the Attending Physician's Statement as the indication for illness will not be accepted.

Non-Medical Circumstances

- **Death of direct family members** - death certificates, obituary notice, notice of funeral services, etc.
- **Vehicle accidents** - automobile accident reports, etc.
- **Emergency travel** – airline tickets with boarding passes, bus/train tickets, etc. The date that travel was booked on must be clearly shown. Airline/train/bus ticket/receipts for emergency travel must indicate destination, departure, and return dates.

Disability Accommodation

(1) If you are seeking **anticipated** accommodations, submit your Letter of Academic Accommodation issued by the Counselling and Disability Studies at York University

(2) If your request is for **unforeseen circumstances** related to a documented disability, your Disability Counsellor can provide supporting documentation if you have maintained contact during the term.

The tables below outline the **request forms** to be submitted and the submission deadlines.

Reasons due to Unforeseen Circumstances

Course Work	Forms	To Whom/Where to Submit	Deadlines for Seeking Approvals
Assignments <i>excluding</i> the Final Assignment	No forms are required	Negotiate with, and seek approval from, the Instructor directly by email	No later than 1 calendar day after the unforeseen circumstance occurred
Mid-term Exams	Missed Test Documentation Form	The School of Health Policy & Management (Room 403, HNES Building)	No later than 7 calendar days following a missed exam
Final Assignment & Final Exam	Final Exam/Assignment Deferred Standing Agreement Form	The School of Health Policy & Management (Room 403, HNES Building)	No later than 7 calendar days following either the missed examination or the last day to submit course work

Reason: Religious Accommodation (Requests need to be submitted well in advance)

Course Work	Forms	To Whom/Where to Submit	Deadlines for Seeking Approvals
Assignments <i>excluding</i> the Final Assignment	No forms are required	Negotiate with, and seek approval from, the Instructor directly by email	No later than 14 calendar days prior to the assignment deadline
Mid-term Exams	Missed Test Documentation Form	The School of Health Policy & Management (Room 403, HNES Building)	No later than 14 calendar days prior to the exam or assignment deadline
Final Assignment	Final Exam/Assignment Deferred Standing Agreement Form	The School of Health Policy & Management (Room 403, HNES Building)	No later than 14 calendar days prior to the exam or assignment deadline
Final Exam not held during the official exam period in December or April	Religious Accommodation Agreement	The School of Health Policy & Management (Room 403, HNES Building)	No later than 14 calendar days prior to the exam or assignment deadline
Final Exam held during the official exam period in December or April	Religious Accommodation Agreement	The School of Health Policy & Management (Room 403, HNES Building)	No later than 3 calendar weeks prior to the start of the examination period

Reason: Disability Accommodation (Requests need to be submitted well in advance)

Course Work	Forms	To Whom/Where to Submit	Deadlines for Seeking Approvals
Assignments <i>excluding</i> the Final Assignment	No forms are required	Negotiate with, and seek approval from, the instructor directly by submitting a Letter of Academic Accommodation	No later than 14 calendar days <i>prior to</i> the assignment deadline
Final Assignment	Final Exam/Assignment Deferred Standing Agreement Form	Negotiate with, and seek approval from, the School of Health Policy & Management (Room 403, HNES Building) by submitting a Letter of Academic Accommodation	No later than 14 calendar days <i>prior to</i> the assignment deadline

Who Makes the Decision?

Approvals for *final* exams and *final* assignments are decided upon by a committee of the School of Health Policy & Management. Decisions about mid-term assignments/exams are decided by the instructor. **Approvals are not guaranteed in either case.**

If Your Request is Approved

If an extension is granted for an **assignment**, the new deadline is firm and no further extensions will be considered.

If a **make-up examination** request is approved, the student must be prepared to write a make-up examination at a date set by the School of Health Policy & Management. Although the content to be examined will be the same, the format may or may not follow that of the original test/examination. You must check with the **School of Health Policy & Management Main Office (HNES 403; shpm@yorku.ca)** for the date and time of the make-up examination. A conflict in another course during the time of the make-up is *not* an acceptable reason for missing the make-up examination (unless there is an examination in the other course at that time). Only extremely unusual circumstances would warrant a second chance at a make-up examination.

If Your Request is Not Approved

Decisions on **mid-term assignments/examinations** are final - there are no options to appeal. Late assignments will be subject to mark deductions as detailed in the course outline. You will receive a grade of zero for the missed examinations.

If your request associated with the *final* assignment/examination is not approved, you may petition through the Registrar's Office. Follow the instructions posted on the [Registrar's Office website](#).

Important Course Information for Students and Instructors

The Senate Academic Standards, Curriculum and Pedagogy (ASCP) provide a Student Information Sheet that explains the followings.

1. [Academic Honesty and Integrity](#)
2. [Access/Disability](#)
3. [Ethics Review Process](#)
4. [Religious Observance Accommodation](#)
5. [Student Conduct in Academic Situations](#)

Additional information

A. Important University Sessional Dates

You will find classes and exams start/end dates, reading/co-curricular week, add/drop deadlines, holidays, University closings and more on the [Registrar's Office website](#)

B. Tuition Refund Table

Refer to the dates posted on the [Office of Student Financial Services website](#).

C. Referencing Style

A referencing style approved by the course director must be used for all assignments and essays. As examples, this may include APA, AMA, MLA. York University Libraries provide [manuals](#).

D. Writing and Learning Skills

You are strongly encouraged to seek assistance from the following university units.

1. [Writing Centre](#)
2. [Learning Commons](#)
3. [Learning Skills Services](#)

E. Undergraduate Grading Scale

Refer to the [Registrar's Office website](#) for details.

F. Grading Scheme and Feedback Policy

Refer to the [University Policy](#) for details.

G. 20% Rule

No examinations or tests collectively worth more than 20% of the final grade in a course will be given during the final 14 calendar days of classes in a term. The exceptions to the rule are classes which regularly meet Friday evenings or on Saturday and/or Sunday at any time, and courses offered in the compressed summer terms. **(Note: Final course grades may be adjusted to conform to Program or Faculty grades distribution profiles.)**

H. Final Grade Reappraisals

Refer to the [Registrar's Office website](#) for details.

I. Pass/Fail Legislation

Refer to the [University Policy](#) for details.

School of Health Policy and Management Assignment Attachment Form

Student Name:

Student Number:

Course Code:

Assignment Title:

Due Date:

Tutorial Leader (if applicable):

Please check each box after reading, to acknowledge agreement with each statement.

- I have read and understand the Senate Policy on Academic Honesty found on website at the following [York Secretariat website on Academic Honesty](#).
- I have read and understood the assignment submission described in the course outline (syllabus)
- I have read and understood the criteria used for assessment in this assignment
- I have read and understood and followed the referencing guidelines required for assignments submitted at York University
- This assignment is entirely my own work, except where I have given documented references to work of others
- This assignment or substantial parts of it has not previously been submitted for assessment in any formal course of study, unless acknowledged in the assignment and

previously agreed to by my Tutorial Leader and Course Director

- I understand that this assignment may undergo electronic detection for plagiarism and a copy of the assignment may be retained on the database and used to make comparisons with other assignments in the future

Signature: _____

Date: _____