



We acknowledge that we are on the traditional, ancestral and unceded territory of the hən̓q̓əmiñəm speaking Musqueam people.

**iSchool Mission: Through innovative research, education and design, our mission is to enhance humanity’s capacity to engage information in effective, creative and diverse ways.**

**ARST575M/LIBR559T: Blockchain Technology for Information Professionals (3) – Course Syllabus (3)**

**Program:** MAS/MLIS/MASLIS and Blockchain/DLT graduate pathway  
**Year:** 2021-2022  
**Course Schedule:** Tuesdays, 2-4:50pm  
**Location:** WEST MALL SWING SPACE (SWNG) - 210  
**Instructor:** Victoria Lemieux  
**Office location:** iSchool, Rm 488 and ICICS, Rm 179  
**Office phone:** 1-604-822-9199  
**Office hours:** Mondays, 1-2pm (Online); Tuesdays, 1-2pm (Online)  
**E-mail address:** v.lemieux@ubc.ca  
**Learning Management Site:** <http://lthub.ubc.ca/guides/canvas/>

**Course Goal:** The goal of this course is to provide students with a foundational understanding of blockchains as socio-informational-technical systems, with recordkeeping at their core, said to establish trust at societal, institutional, informational and technical levels. Students will interact with and apply blockchain technology as a means of evaluating the relationship between trust and blockchain technology, and assess the role of the information professional in relation to requirements for trustworthy recordkeeping and effective information management in the context of blockchain technology.

**Course Objectives:**

**Upon completion of this course students will be able to:**

*Foundations*

- Demonstrate an understanding of all of the salient features and architectures of blockchain technology (MLIS: 1.3) (MAS: 1.1., 1.3)
- Employ a blockchain wallet and conduct basic cryptocurrency transactions on a blockchain (MLIS: 1.3, 4.2) (MAS: 1.1., 1.3)
- Distinguish different types of blockchains, including differences and similarities between major blockchain platforms (MLIS: 1.3) (MAS: 1.1)
- Critically evaluate notions, and the basis, of trust from different disciplinary perspectives (legal, historical, archival and technical), and through time, and how blockchain operates to solve problems of trust (MLIS: 1.3, 4.1) (MAS: 1.1, 1.4, 2.1, 3.1, 3.2, 4.1)

*Blockchain Recordkeeping*



- Identify how interacting layers in blockchains, in particular the keeping of records, contribute to the attainment of trust in the context of blockchains (MLIS: 1.3) (MAS: 1.1., 1.4, 2.1, 3.1, 3.2, 4.1)
- Demonstrate an understanding of the main elements of an archival and diplomatics examination of records for trustworthiness and apply them to the evaluation of blockchain system designs (MLIS: 1.1, 1.3, 4.1) (MAS: 1.1., 1.4, 2.1, 3.1, 4.1)
- Design and configure a basic blockchain network and appraise its operation in relation to principles of trustworthy recordkeeping and information management (MLIS: 4.2) (MAS: 1.1, 1.3)
- Critically assess the Crypto-Anarchist's manifesto and the Cypherpunk manifesto in relation to the management of records and information and the role of trusted records repositories and the role of the records and information professional (MLIS: 1.1, 1.3, 1.4, 4.1, 5.1) (MAS: 1.1, 3.1, 4.1)

#### *Information Governance, Risk and Compliance*

- Critically evaluate discourse on privacy and transparency in relation to blockchain technology and evaluate the implications for the design of blockchain systems (MLIS: 1.1, 1.2, 1.3, 4.1) (MAS: 1.1., 1.4, 2.1, 3.1, 4.1)
- Demonstrate an understanding of techniques of forensic analysis of blockchain transactions, including those used to trace cryptocurrency transactions (MLIS: 1.3) (MAS: 1.1., 1.4, 2.1, 3.1, 2.1, 4.1)
- Analyze blockchain transactions and critically evaluate the implications in relation to user privacy (MLIS: 4.2) (MAS: 1.1., 1.4, 2.1, 3.1, 2.1, 4.1)
- Demonstrate an understanding of laws and regulations applicable to blockchains and cryptocurrency tokens, and critically reflect upon these in relation to the notion of "code as law" (MLIS: 1.3) (MAS: 1.1., 1.4, 2.1, 3.1, 2.1, 4.1)
- Design and implement a smart contract and assess it in relation to the archival and diplomatic theory relating to records and trustworthy recordkeeping (MLIS: 4.2) (MAS: 1.1., 1.4, 1.3, 4.1)

### **Course Topics:**

#### *Module 1: Foundations*

- Blockchain use cases related to archives and libraries
- How blockchains operate to solve problems of trust
- Features and architectures of blockchain technology
- Different types of blockchains, including differences and similarities between major blockchain platforms

#### *Module 2: Blockchain Recordkeeping and Information Management*

- How recordkeeping contributes to the attainment of trust in the context of blockchains
- Blockchains as recordkeeping systems
- Trustworthiness of blockchain records
- Public Archives, long-term preservation and blockchains

#### *Module 3: Blockchain Information Governance and Compliance Issues*

- Privacy and transparency in blockchain technology
- Laws and regulations applicable to blockchains and cryptocurrency tokens,



- “code as law”
- smart contracts
- Self-sovereign identity

**Prerequisites:** MAS and Dual Students, completion of the MAS core courses. MLIS students, completion of the MLIS core and of LIBR 579G or LIBR 516.

**Format of the course:** We will meet in person for a combination of lectures, labs and guest speakers.

**Required and Recommended Reading:**

*Required:* Refer to weekly course schedule below.

*Recommended:*

Baliga, Arati (2017). "Understanding blockchain consensus models." Persistent .  
<https://pdfs.semanticscholar.org/da8a/37b10bc1521a4d3de925d7ebc44bb606d740.pdf>.

Baran, Paul. (1962). "On distributed communications networks." IEEE transactions on Communications Systems 12, no. 1: 1-9. Available online through UBC library.

Chasse, Ken. "Electronic Records as Evidence: From "Paper-Originals" to "System-Integrity"." *Joint Open Forum on Standardization Enablement in Electronic Commerce (JOFSEEC) March* (2001): 5-6.

Duranti, Luciana. *Diplomatics: new uses for an old science*. Scarecrow Press, 1998

Duranti, Luciana, and Giovanni Michetti. "Archival method." *Archival Multiverse* (2012).

Duranti, Luciana, and Corinne Rogers. "Trust in records and data online." Integrity in Government through Records Management. *Essays in Honour of Anne Thurston* (2016): 205.

Engvall, Tove, and Hellmer Erica. "As money turns digital and trust turns algorithmic: what ought to be considered?." In *Maintaining the Facts Infrastructure in the Era of Post-Truth Politics 19-20 september 2017, National Swedish heritage board, storgatan 41, Stockholm*. 2017.

Findlay, Cassie. "Participatory cultures, trust technologies and decentralisation: innovation opportunities for recordkeeping." *Archives and Manuscripts* 45, no. 3 (2017): 176-190.

Head, Randolph C. "Documents, Archives, and Proof around 1700." *The Historical Journal* 56, no. 4 (2013): 909-930.

Hirsh, Sandra and Susan Alman, eds. (2020). *Blockchain*. Chicago, ILL: ALA Center for the Future of Libraries. 45 pages. Available on short-term loan from front desk at iSchool.



Hofman, Darra, and Alamir Novin (2018). "Blocked and Chained: Blockchain and the Problems of Transparency." Vancouver, Canada.

[https://asistdl.onlinelibrary.wiley.com/doi/pdf/10.1002/pra2.2018.14505501019?casa\\_token=sMMC9MIJ4PQAAAAA%3A6QUhSh95mH1-RxpwUwna5Nuh\\_q7k71u4NLfZ\\_-YM115RWaMmFzf9sPvT\\_ALWpvXkyPPEqa3rHlwytrVW](https://asistdl.onlinelibrary.wiley.com/doi/pdf/10.1002/pra2.2018.14505501019?casa_token=sMMC9MIJ4PQAAAAA%3A6QUhSh95mH1-RxpwUwna5Nuh_q7k71u4NLfZ_-YM115RWaMmFzf9sPvT_ALWpvXkyPPEqa3rHlwytrVW)

Hoffman, D., D. Batista, and V.L. Lemieux (2018). "Centre of Excellence for Prevention of Organ Failure (PROOF) - (RPCCA-01) – Case Study 1," Records in the Chain Project Report, available at <https://blogs.ubc.ca/recordsinthechain/>.

Kannengießer, Niclas, Sebastian Lins, Tobias Dehling, and Ali Sunyaev. (2019). "What Does Not Fit Can be Made to Fit! Trade-Offs in Distributed Ledger Technology Designs." In Proceedings of the 52nd Hawaii International Conference on System Sciences. <https://scholarspace.manoa.hawaii.edu/bitstream/10125/60143/1/0703.pdf>.

Lemieux, Victoria L. "Evaluating the Use of Blockchain in Land Transactions: An Archival Science Perspective." *European Property Law Journal* 6, no. 3 (2017): 392-440.

Lemieux, Victoria L., & Sporny, M. Preserving the Archival Bond in Distributed Ledgers: A Data Model and Syntax. In *Proceedings of the 26th International Conference on World Wide Web Companion* (April 2017); pp. 1437-144. International World Wide Web Conferences Steering Committee.

Lima, Claudio (2018). "Blockchain-GDPR Privacy by Design: How Decentralized Blockchain Internet Will Comply with GDPR Data Privacy" (IEEE Blockchain. <https://blockchain.ieee.org/images/files/pdf/blockchain-gdpr-privacy-by-design.pdf>.

MacNeil, Heather. "Trust and professional identity: narratives, counter-narratives and lingering ambiguities." *Archival Science* 11, no. 3-4 (2011): 175-192.

MacNeil, Heather. *Trusting records: legal, historical and diplomatic perspectives*. Springer Science & Business Media, 2013. Chp 1 & Chp. 4. Available online through UBC library.

Miers, Ian. (2018). "How Much Privacy is Enough? Threats, Scaling, and Trade-Offs in Blockchain Privacy Protocols." *Scaling Bitcoin*. Watch online at [https://www.reddit.com/r/pivx/comments/9m1cpa/how\\_much\\_privacy\\_is\\_enough\\_threats\\_scaling\\_and/](https://www.reddit.com/r/pivx/comments/9m1cpa/how_much_privacy_is_enough_threats_scaling_and/).

Möser, Malte, Kyle Soska, Ethan Heilman, Kevin Lee, Henry Heffan, Shashvat Srivastava, Kyle Hogan et al. (2018). "An Empirical Analysis of Traceability in the Monero Blockchain." *Proceedings on Privacy Enhancing Technologies* 2018, no: 143-163. <https://www.degruyter.com/downloadpdf/j/popets.2018.2018.issue-3/popets-2018-0025/popets-2018-0025.pdf>.

Murray, Andrew D. "Code as Law." *The International Encyclopedia of Communication* (2008).



Narayanan, Arvind, Joseph Bonneau, Edward Felten, Andrew Miller, and Steven Goldfeder. Bitcoin and cryptocurrency technologies: a comprehensive introduction. Princeton University Press, 2016.

Naqvi, S. (2018). "Challenges of Cryptocurrencies Forensics: A Case Study of Investigating, Evidencing and Prosecuting Organised Cybercriminals." In Proceedings of the 13th International Conference on Availability, Reliability and Security, 63:1–63:5. ARES 2018. New York, NY, USA: ACM. [Http://www.open-access.bcu.ac.uk/6093/1/Challenges%20of%20cryptocurrencies%20forensics.pdf](http://www.open-access.bcu.ac.uk/6093/1/Challenges%20of%20cryptocurrencies%20forensics.pdf).

Nissenbaum, Helen. "A Contextual Approach to Privacy Online." *Daedalus* 140, no. 4 (2011): 32–48. [https://doi.org/10.1162/DAED\\_a\\_00113](https://doi.org/10.1162/DAED_a_00113).

Pilkington, Marc (2016). "Blockchain technology: principles and applications." *Research handbook on digital transformations*. [Http://kddlab.zigsu.edu.cn:7200/research/blockchain/hehonghao-reference/34-Blockchain%20Technology\\_%20Principles%20and%20Applications.pdf](http://kddlab.zigsu.edu.cn:7200/research/blockchain/hehonghao-reference/34-Blockchain%20Technology_%20Principles%20and%20Applications.pdf)

Sahlin, Emma, and Rebecka Levenby. "Blockchain in audit trails: An investigation of how blockchain can help auditors to implement audit trails." (2018).

San Jose University (2018). Blockchain for the Information Profession. Ways to use blockchains in libraries. <https://ischoolblogs.sjsu.edu/blockchains/blockchains-applied/applications/>

Sankar, Lakshmi Siva, M. Sindhu, and M. Sethumadhavan. "Survey of consensus protocols on blockchain applications." In *Advanced Computing and Communication Systems (ICACCS), 2017 4th International Conference on*, pp. 1-5. IEEE, 2017.

Storey, Veda C., and Carson C. Woo. "Data Challenges in the Digitization Era." [https://www.researchgate.net/profile/Veda\\_Storey/publication/328643084\\_Data\\_Challenges\\_in\\_the\\_Digitization\\_Era/links/5bdda22d299bf1124fb7d684/Data-Challenges-in-the-Digitization-Era.pdf](https://www.researchgate.net/profile/Veda_Storey/publication/328643084_Data_Challenges_in_the_Digitization_Era/links/5bdda22d299bf1124fb7d684/Data-Challenges-in-the-Digitization-Era.pdf).

Szabo, Nick. "The idea of smart contracts." *Nick Szabo's Papers and Concise Tutorials* 6 (1997).

Vigna, Paul, and Michael J. Casey (2018). *The Truth Machine: The Blockchain and the Future of Everything*. St. Martin's Press. Chps. 2 & 7. Available on short-term loan through UBC Library.

Walch, Angela. (2015). "The bitcoin blockchain as financial market infrastructure: A consideration of operational risk." NYUJ Legis. & Pub. Pol'y 18. Available online at [https://heinonline.org/hol-cgi-bin/get\\_pdf.cgi?handle=hein.journals/nyulpp18&section=34&casa\\_token=\\_5dEr34XAhQAAAAA:-](https://heinonline.org/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/nyulpp18&section=34&casa_token=_5dEr34XAhQAAAAA:-)



MoqcsGDxAL1aO3fzMfxm1E5\_DSalm0svmhsIm4EhvhtD8XEWkC9wSINvHxChg2Pxkn8sIJSjWC.

Walch, Angela. "The path of the blockchain lexicon (and the law)." *Rev. Banking & Fin. L.* 36 (2016): 713.

Walton, Joseph B. and Gurpreet Dhillon (2017). "Understanding Digital Crime, Trust, and Control in Blockchain Technologies." <http://repository.itelkom-pwt.ac.id/3111/1/Understanding%20Digital%20Crime%20Trust%20and%20Control%20in%20Blockchain%20Tec.pdf>.

Werbach, Kevin (2018). "Trust, But Verify: Why the Blockchain Needs the Law." 33 *Berkeley Tech. L.J.* 489.

Williams, Caroline. "Diplomatic attitudes: from Mabilion to metadata." *Journal of the Society of Archivists* 26, no. 1 (2005): 1-24.

Yeo, Geoffrey. "Trust and context in cyberspace." *Archives and Records* 34, no. 2 (2013): 214-234.

### Course Assignments:

Assignment Name	Due Date	Weight	Graduate Competencies
<i>Four Online Quizzes</i> on the Foundations of Blockchain Technology as a Technology of Trust to test your knowledge and understanding of basic blockchain concepts. The quizzes will be delivered through the CANVAS system and will follow the multiple-choice format.	Quiz 1=Jan. 18 Quiz 2 = Feb. 1 Quiz 3 = Feb. 8 Quiz 4 = Feb. 15	20%	MLIS: 1.3, 4.1  MAS: 1.1., 1.4, 2.1, 3.1, 3.2, 4.1
<i>Critical analysis</i> of a blockchain solution design: Upon completion of Lab 2, students will critically analyze the basic blockchain solution they configured using analytic tools such as the Taxonomy of Trust (which will be taught in class) to assess the solution as a recordkeeping system capable of the creation, capture and preservation of trustworthy records.	Mar. 8	30%	MLIS: 1.1, 1.3, 1.4, 4.1, 5.1  MAS: 1.3., 1.4
<i>Technical Labs:</i> Students will be expected to complete a series of four in-class technical labs as follows: 1. Setting up a cryptocurrency wallet and sending and receiving cryptocurrency on a blockchain testnet (5%) 2. Configuring a basic blockchain solution for digital asset management using the Hyperledger Fabric Blockchain Protocol (20%)	Lab 1= Jan. 11 Lab 2 = Feb. 22 Lab 3 = Mar. 22	50%	MLIS: 1.1, 1.2, 1.3, 4.1, 4.2, 5.1  MAS: 1.1.,1.3, 1.4, 2.1, 3.1, 4.1



<p>3. Designing and implementing a smart contract (chaincode) for execution on Hyperledger Fabric (10%)</p> <p>4. Setting up a wallet to hold verifiable credentials, receiving verifiable credentials and presenting verifiable proofs. Generating and sending verifiable credentials (15%)</p> <p>Detailed instruction on each of the labs will be given in class and “recipes” for completion of the labs will also be available in CANVAS. We will generally go over the lab and spend some time completing them in class; however, students can expect to spend additional time outside of class to complete the lab. Generally speaking, labs are designed to be completed within one week of commencement. Prior knowledge of coding is not required, though students will need to be prepared to work on setting up technical systems and will tackle some simple scripting.</p>	<p>Lab 4 = April 8</p>		
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**Course Schedule [week-by-week]:**

CONTENT:	DATE:	READING LIST:
<b>Module 1: Foundations</b>		
<b>Ready, set, go!</b>	Jan. 4	There will be no class, since term does not officially begin until Jan. 10, so please use this time to set up your computers (you will need your own machine for this course) to prepare for course labs. Instructions and specifications are available for registered students on CANVAS.
<b>Blockchain sucks!</b>  (Complete Lab #1 in class)	Jan. 11	<p>Nakamoto, Satoshi (2008). “Bitcoin: A peer-to-peer electronic cash system.” <a href="https://git.dhimmel.com/bitcoin-whitepaper/">https://git.dhimmel.com/bitcoin-whitepaper/</a>.</p> <p>Michens, James (2018). “Blockchains are a bad idea,” <a href="https://www.youtube.com/watch?v=15RTC22Z2xl">https://www.youtube.com/watch?v=15RTC22Z2xl</a></p> <p>Lemieux, Victoria (2021). Blockchain Technology and Recordkeeping: Editorial. <i>Computers</i>, 10(11). <a href="https://www.mdpi.com/2073-431X/10/11/135">https://www.mdpi.com/2073-431X/10/11/135</a>.</p> <p>Lemieux, Victoria (2022 forthcoming). Searching for Trust: Blockchain Technology in the Age of Disinformation. Cambridge University Press, Cambridge. Chp. 1. Reading available in CANVAS.</p>



<p><b>One of these things is not like the others - differences and similarities between major blockchains</b></p> <p>(Complete Quiz 1)</p>	<p>Jan. 18</p>	<p>Lemieux, Victoria (2022 forthcoming). Searching for Trust: Blockchain Technology in the Age of Disinformation. Cambridge University Press, Cambridge. Chps. 2 &amp; 3. Reading available in CANVAS.</p> <p>Lemieux, V. L., &amp; Feng, C. (2021). Conclusion: Theorizing from Multidisciplinary Perspectives on the Design of Blockchain and Distributed Ledger Systems (Part 2). In <i>Building Decentralized Trust</i> (pp. 129-163). Springer, Cham. Available online through UBC Library.</p> <p>Work on in-class group presentations on different blockchain protocols (Refer to instructions in CANVAS on for a list of protocols how to prepare your presentations).</p>
	<p>Jan. 25</p>	<p>In-class group presentations on different blockchain protocols (Refer to instructions in CANVAS on for a list of protocols how to prepare your presentations).</p>

**Module 2: Blockchain Recordkeeping**

<p><b>Are blockchains recordkeeping systems?</b></p> <p>(Complete Quiz 2)</p>	<p>Feb 1</p>	<p>ISO/TC 46/SC 11. (2016). ISO 15489-1:2016 - <i>Information and documentation - Records management. Part 1: Concepts and Principles</i>. Geneva, Switzerland: International Organization for Standardization (ISO). Available in CANVAS.</p> <p>Lemieux, Victoria (2022 forthcoming). Searching for Trust: Blockchain Technology in the Age of Disinformation. Cambridge University Press, Cambridge. Chps. 6 &amp; 7. Available in CANVAS.</p> <p>Ross, Dian, Edmond Cretu and Victoria Lemieux, "NFTs: Tulip Mania or Digital Renaissance?" In <i>Proceedings of the Workshop on Computational Archival Science in Big Data, IEEE Big Data Conference, Orlando, Florida, December 17, 2021. Washington, DC: IEEE, 2021</i>. Available in CANVAS.</p>
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<p><b>We will work in class on completion of Lab 2</b></p>	<p>Feb. 8</p>	<p>Foundations &amp; Building a Digital Asset Management Solution with Hyperledger Fabric</p>
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(Complete Quiz 3)		
<b>Trusting records – is blockchain technology the answer?</b>  (Complete Quiz 4)	Feb. 15	<p>Flores, D., C. Lacombe, and V.L. Lemieux (2018). "Real Estate Transaction Recording in the Blockchain in Brazil (RCPLAC-01) – Case Study 1," Records in the Chain Project Report, available at <a href="https://blogs.ubc.ca/recordsinthechain/">https://blogs.ubc.ca/recordsinthechain/</a></p> <p>Lemieux, Victoria L. (2016). Trusting records: is Blockchain technology the answer?" Records Management Journal 26, no. 2: 110-139. Available online through UBC library.</p> <p>Woodall, A., &amp; Ringel, S. (2020). Blockchain archival discourse: Trust and the imaginaries of digital preservation. <i>New Media &amp; Society</i>, 22(12), 2200-2217. Available online through UBC Library.</p>
(Lab #2 due)	Feb. 22	Reading week. No readings. Complete Lab #2 and Work on Critical Analysis Assignment (Due Mar. 8)
<b>Blockchains are forever . . . or are they?</b>	Mar 1	<p>ISO 14721:2012. Space data and information transfer systems — Open archival information system (OAIS) — Reference model. ISO, Geneva, Switzerland. Available in CANVAS.</p> <p>Collomosse, John, Tu Bui, Alan Brown, John Sheridan, Alex Green, Mark Bell, Jamie Fawcett, Jez Higgins, and Olivier Thereaux (2018). "ARCHANGEL: Trusted Archives of Digital Public Documents." arXiv. <a href="https://arxiv.org/pdf/1804.08342.pdf">https://arxiv.org/pdf/1804.08342.pdf</a></p> <p>Stančić H, Bralić V. Digital Archives Relying on Blockchain: Overcoming the Limitations of Data Immutability. <i>Computers</i>. 2021; 10(8):91. <a href="https://doi.org/10.3390/computers10080091">https://doi.org/10.3390/computers10080091</a></p> <p>Wang H, Yang D. Research and Development of Blockchain Recordkeeping at the National Archives of Korea. <i>Computers</i>. 2021; 10(8):90. <a href="https://doi.org/10.3390/computers10080090">https://doi.org/10.3390/computers10080090</a></p>
<b>Module 3: Blockchain Information Governance and Compliance Issues</b>		
<b>Lex Cryptographia</b>  (Critical Analysis Assignment Due)	Mar. 8	<p>Cornelius, Kristin B. (2018). "Smart Contracts as Evidence: Trust, Records, and the Future of Decentralized Transactions." Second International Handbook of Internet Research: 1-20. Available online through UBC library.</p> <p>De Filippi, Primavera De Filippi (2018). Blockchain and the Law: The Rule of Code. Harvard University Press. Available online through UBC library.</p> <p>Hewa, T., Ylianttila, M., &amp; Liyanage, M. (2020). Survey on blockchain based smart contracts: Applications, opportunities and</p>



		<p>challenges. <i>Journal of Network and Computer Applications</i>, 102857. Available online through UBC library.</p> <p>Werbach, Kevin (2018). "Trust, But Verify: Why the Blockchain Needs the Law." 33 <i>Berkeley Tech. L.J.</i> 489.</p>
<b>We will work in class on completion of Lab 3</b>	Mar. 15	Developing Smart Contracts (Chaincode) with Hyperledger Fabric
<p><b>Free my people – Privacy, Identity &amp; Data Sovereignty – Part I</b></p> <p>(Lab #3 due)</p>	Mar. 22	<p>Hofman, D., Lemieux, V. L., Joo, A., &amp; Batista, D. A. (2019). "The margin between the edge of the world and infinite possibility" <i>Records Management Journal</i> Vol. 29, No. 1-2: 24-257. Available online through UBC library.</p> <p>Lima, Claudio (2018). "Blockchain-GDPR Privacy by Design: How Decentralized Blockchain Internet Will Comply with GDPR Data Privacy" (IEEE Blockchain. <a href="https://blockchain.ieee.org/images/files/pdf/blockchain-gdpr-privacy-by-design.pdf">https://blockchain.ieee.org/images/files/pdf/blockchain-gdpr-privacy-by-design.pdf</a>.</p> <p>Tatar, U., Gokce, Y., &amp; Nussbaum, B. (2020). Law versus technology: Blockchain, GDPR, and tough tradeoffs. <i>Computer Law &amp; Security Review</i>, 38, 105454. Available online through UBC library.</p>
<p><b>Free my people – Privacy, Identity &amp; Data Sovereignty – Part II</b></p> <p><b>We will work in class on completion of Lab 4</b></p>	Mar. 29	<p>Herian, R. (2020). Blockchain, GDPR, and fantasies of data sovereignty. <i>Law, Innovation and Technology</i>, 12(1), 156-174.</p> <p>OECD, "What is Self-Sovereign Identity?", <a href="https://www.youtube.com/watch?v=3CWj9TqMzaU">https://www.youtube.com/watch?v=3CWj9TqMzaU</a></p> <p>Open North and the British Columbia First Nations Data Governance Initiative (2017), "Decolonizing Data: Indigenous Data Sovereignty Primer." (Available in CANVAS)</p> <p>Technology and Aging Research Group (2020), "What is Self-Sovereign Identity," <a href="https://www.youtube.com/watch?v=0Wiclm8x_GY&amp;feature=youtu.be">https://www.youtube.com/watch?v=0Wiclm8x_GY&amp;feature=youtu.be</a></p> <p>Trust over IP. Trust over IP Model. <a href="https://trustoverip.org/toip-model/">https://trustoverip.org/toip-model/</a>. For more information you can also review the whitepaper. <a href="https://trustoverip.org/wp-content/uploads/2020/05/toip_introduction_050520.pdf">https://trustoverip.org/wp-content/uploads/2020/05/toip_introduction_050520.pdf</a></p>



<p><b>Tables gonna turn? . . . concluding thoughts</b></p> <p>(Lab #4 due on the last day of term, April 8)</p>	<p>Apr. 5</p>	<p>Atzori, Marcella (2015). "Blockchain technology and decentralized governance: Is the state still necessary?." SSRN. Available on <a href="https://www.academia.edu">Academia.edu</a>.</p> <p>Hughes, Eric. (1993). "A Cypherpunk's Manifesto." <a href="https://www.activism.net/cypherpunk/manifesto.html">https://www.activism.net/cypherpunk/manifesto.html</a></p> <p>Lemieux, Victoria (2022 forthcoming). Searching for Trust: Blockchain Technology in the Age of Disinformation. Cambridge University Press, Cambridge. Chp. 8. Available in CANVAS.</p> <p>Markey-Towler, Brendan (2018). "Anarchy, Blockchain and Utopia: A Theory of Political-Socioeconomic Systems Organised using Blockchain." Journal of the British Blockchain Association. <a href="https://jbba.scholasticahq.com/article/3400.pdf">https://jbba.scholasticahq.com/article/3400.pdf</a>.</p>
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**Covid-19 safety in class:** During class, you are required to wear a non-medical mask during our class meetings, for your own protection and for the safety and comfort of everyone else in the class. For our in-person meetings in this class, it is important that all of us feel as comfortable as possible engaging in class activities while sharing an indoor space. Non-medical masks that cover our noses and mouths are a primary tool for combating the spread of Covid-19. Further, according to the provincial mandate, masks are required in all indoor public spaces including lobbies, hallways, stairwells, elevators, classrooms and labs. There may be students who have medical accommodations for not wearing a mask, in which case, please inform the course instructor. Please maintain a respectful environment. UBC Respectful Environment Statement.

**Attendance:** Attendance will be taken at each class for purposes of contact tracing in the event of Covid 19 exposure. If you are sick, it is important that you stay home. Complete a self-assessment for Covid-19 symptoms here: <https://bc.thrive.health/covid19/en>. In this class, the marking scheme is intended to provide flexibility so that you can prioritize your health and still succeed. If you miss class because of illness, the following strategies can be adopted to ensure that you do not fall behind:

- Make a connection early in the term to another student or a group of students in the class. You can help each other by sharing notes. If you don't yet know anyone in the class, post on the discussion forum to connect with other students.
- Consult the class resources on Canvas.
- Use the discussion forum for help.
- Attend office hours.
- If you are concerned that you will miss a key activity due to illness, contact the instructor to discuss.

If I, as the course instructor, am unwell, I will not come to class. I will make every reasonable attempt to communicate plans for class as soon as possible via Canvas. Our classroom will still be available for you to sit in, and alternate arrangements will be made for covering any scheduled in-class content deemed essential for that class.



**Evaluation:** All assignments will be marked using the evaluative criteria given on the iSchool web site, and, more specifically, in accordance with assignment grading rubrics. Assignments will be regraded only in exceptional circumstances. Missed assignments will be dealt with according to the policy outlined under academic concessions (below).

**Required Materials:** Students will need a stable internet connection, and access to UBC's Canvas system. Students should also ensure that they have registered to receive communications via Canvas. As the course will involve completing technical labs, students are advised that they will need a laptop computer. iPads will have insufficient computing capabilities to complete the labs for this course. For detailed specifications, consult the information provided in CANVAS.

**Academic Concession:** Students who miss marked coursework for the first time (assignment, exam, presentation, participation in class) and the course is still in-progress, should speak with the instructor immediately to find a solution for missed coursework. Any concessions that will result in a change to the student record (such as late withdrawal from the course) will be referred to the Faculty of Graduate and Postdoctoral Studies for evaluation. If this is not the first request for a concession or classes are over, please consult the Faculty of Graduate and Postdoctoral Studies' webpage on academic concession, and then contact the instructor as appropriate.

**Policies and Resources to Support Student Success:** UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious and cultural observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available here (<https://senate.ubc.ca/policies-resources-support-student-success>)

**Academic Integrity:** The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply when the matter is referred to the Office of the Dean. Careful records are kept in order to monitor and prevent recurrences. A more detailed description of academic integrity, including the University's policies and procedures, may be found in the UBC Calendar: Student Conduct and Discipline.



**Academic Accommodation for Students with Disabilities:** Academic accommodations help students with a disability or ongoing medical condition overcome challenges that may affect their academic success. Students requiring academic accommodations must register with the Centre for Accessibility (previously known as Access & Diversity). The Centre will determine that student's eligibility for accommodations in accordance with Policy LR7: Accommodation for Students with Disabilities (Joint Senate and Board Policy). Academic accommodations are not determined by your instructors, and instructors should not ask you about the nature of your disability or ongoing medical condition, or request copies of your disability documentation. However, your instructor may consult with the Centre for Accessibility should the accommodations affect the essential learning outcomes of a course.

**Conflicting Responsibilities:** UBC recognizes that students may occasionally have conflicting responsibilities that affect their ability to attend class or examinations. These may include: representing the University, the province or the country in a competition or performance; serving in the Canadian military; or observing a religious rite. They may also include a change in a student's situation that unexpectedly requires that student to work or take responsibility for the care of a family member, if these were not pre-existing situations at the start of term.

Students with conflicting responsibilities have a duty to arrange their course schedules so as to avoid, as much as possible, any conflicts with course requirements. As soon as conflicting responsibilities arise, students must notify either their instructor(s) or their Faculty Advising Office (e.g. Arts Academic Advising), and can request academic concession. Instructors may not be able to comply with all such requests if the academic standards and integrity of the course or program would be compromised.

Varsity student-athletes should discuss any anticipated and unavoidable regular-season absences with the instructor at the start of term, and provide notice of playoff or championship absences in writing as soon as dates are confirmed.

Religious observance may preclude attending classes or examinations at certain times. In accordance with the UBC Policy on Religious Holidays, students who wish to be accommodated for religious reasons must notify their instructors in writing at least two weeks in advance. Instructors provide opportunity for such students to make up work or examinations missed without penalty.

**Issues for students studying abroad and remotely:** During this pandemic, the shift to online learning has greatly altered teaching and studying at UBC, including changes to health and safety considerations. Keep in mind that some UBC courses might cover topics that are censored or considered illegal by non-Canadian governments. This may include, but is not limited to, human rights, representative government, defamation, obscenity, gender or sexuality, and historical or current geopolitical controversies. If you are a student living abroad, you will be subject to the laws of your local jurisdiction, and your local authorities might limit your access to course material or take punitive action against you. UBC is strongly committed to academic freedom, but has no control over foreign authorities (please visit <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,33,86,0> for an articulation of the values of the University conveyed in the Senate Statement on Academic Freedom). Thus, we



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recognize that students will have legitimate reason to exercise caution in studying certain subjects. If you have concerns regarding your personal situation, consider postponing taking a course with manifest risks, until you are back on campus or reach out to your academic advisor to find substitute courses. For further information and support, please visit: <http://academic.ubc.ca/support-resources/freedom-expression>.