**INFO 200 (3) Foundations of Informatics: How information shapes our lives**  
*For 2021-22, Sample Syllabus*

<table>
<thead>
<tr>
<th>Category: 1 Faculty: Arts</th>
<th>Date: July 30, 2020</th>
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</thead>
<tbody>
<tr>
<td>Department: School of Information</td>
<td>Contact Person: Richard Arias-Hernandez</td>
</tr>
<tr>
<td>Faculty Approval Date:</td>
<td>Phone: 604-822-1458</td>
</tr>
<tr>
<td>Effective Session (W or S): W</td>
<td>Email: <a href="mailto:richard.arias@ubc.ca">richard.arias@ubc.ca</a></td>
</tr>
<tr>
<td>Effective Academic Year: 2021-22</td>
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**Proposed Calendar Entry:**

**INFO 200 (3) Foundations of Informatics**

Theory, methods, and approaches for the analysis, design, and evaluation of information objects, activities, systems, and infrastructures in contemporary societies.

**URL:**

**Present Calendar Entry:**

N/A

**Type of Action:**

New Course

**Rationale for Proposed Change:**

INFO 200 will serve as a required course for a prospective Minor in Informatics offered through UBC’s School of Information. Along with INFO 100, INFO 200 provides pre-requisites for some of the level-3 and level-4 INFO courses in the Minor.

Informatics is the study and design of information technologies that impact society. The goal of INFO 200 is to introduce students to the field of informatics, to its history, main developments, types of problems to be addressed, main research questions, and contributions to other disciplines and society.

Given its topical subject matter, we believe the course will appeal to students from across the Faculty of Arts and university.

*Note: This Category 1 course proposal is submitted at the same time as a Category 1 proposal for a new Minor in Informatics.*
We acknowledge that we are on the traditional, ancestral and unceded territory of the hən̓q̓əmin̓əm̓ 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.

INFO 200 Foundations of Informatics: How information shapes our lives (3)

Program: BA Minor in Informatics
Year:
Class size 60-80 students
Course Schedule: Twice a week, in blocks of 1 hour and 30 mins
Location:
Instructor: iSchool Adjunct Office
Office location:
Office phone:
Office hours:
E-mail address:
Teaching Assistant: This course will have at least one TA, and if it gets close to maximum capacity, two TAs
Learning Management Site: http://lthub.ubc.ca/guides/canvas/

Course Overview:
Informatics is the study and design of information technologies that impact society. The goal of this course is to familiarize students with the area of informatics by exploring how processes and technologies to store and retrieve information have transformed human societies. This foundational course will introduce students to histories, theories, and concepts used to analyze, design and evaluate information objects, activities, systems, and infrastructures in contemporary societies. Emphasis will be placed on the interplay between sociotechnical structures and information processes and techniques (e.g. creation, organization, processing, storing, and retrieval of information) in different domains of human life. Students will apply this knowledge to critically analyze the design of an organizing system and build up proficiency to design automated information processes/technologies in their own disciplines.

Learning Outcomes:

Upon completion of this course students will be able to:

LO1: Analyze the effectiveness of information organization technologies by using key concepts and theories in informatics and information studies

LO2: Explain the role of scientific, social, historical, and technological factors in the development and current state of informatics in different disciplines
LO3: Compare key aspects of the interactions of humans with digital information that are critical to inform the design of supporting technologies

LO4: Analyze real-world examples of application of informatics to address major societal issues such as pandemics, climate change, poverty, misinformation, information privacy and security, etc. by integrating multiple perspectives

LO5: Outline the inner-workings, conceptual logic, design rationale and biases of information organization systems

Course Topics:

- Informatization of life
- Information as infrastructure
- Information organization systems and infrastructure
- Human-information behaviour (HIB)
- The digital self
- Information overload
- Reverse engineering of the design of information organization systems
- Real-world examples of informatics that have transformed human societies

Prerequisites: None

Format of the course:
The course will be a combination of lectures, in-class activities, group discussions, and guest speakers. Participation in class discussions, activities, and engagement with assigned readings is required.

Required and Recommended Readings:

Required Textbook:
  https://ischools.org/resources/Documents/Discipline%20of%20organizing/Informatics/TO4-Informatics-CC.pdf (This is an open text-book).

Required articles or book chapters:


- Tetlow, P. (2017). 8 Steps to understanding information (and maybe the universe). TED@IBM. https://www.ted.com/talks/phil_tetlow_8_steps_to_understanding_information_and_may_be_the_universe


Course Assignments and Assessment:

<table>
<thead>
<tr>
<th>Assignment Name</th>
<th>Due Date</th>
<th>Weight</th>
<th>Learning Outcomes</th>
<th>Program Competencies</th>
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</thead>
<tbody>
<tr>
<td>Individual activity: Information systems in real-life (inventory exercise and peer review activity)</td>
<td>Week 5 - Inventory is due on the first session of this week. Peer review is due on the second session</td>
<td>15%</td>
<td>LO1 &amp; LO3</td>
<td>1, 4, 5 &amp; 6</td>
</tr>
<tr>
<td>Midterm exam: Questions on history of informatization of life &amp; theories in HIB and Informatics</td>
<td>Week 7</td>
<td>20%</td>
<td>LO1 &amp; LO2</td>
<td>1, 3 &amp; 4</td>
</tr>
<tr>
<td>Course Project - Reverse Engineering (group assignment)</td>
<td>Week 8</td>
<td>10%</td>
<td>LO3 &amp; LO4</td>
<td>1, 3, 5, 6 &amp; 7</td>
</tr>
<tr>
<td>I. Project Plan</td>
<td>Week 10</td>
<td>5%</td>
<td>LO3, LO4 &amp; LO5</td>
<td>2, 3, 4, 5, 6 &amp; 7</td>
</tr>
<tr>
<td>II. Preliminary report</td>
<td>Week 12</td>
<td>15%</td>
<td>LO3, LO4 &amp; LO5</td>
<td>2, 3, 4, 5, 6 &amp; 7</td>
</tr>
<tr>
<td>III. Final Report</td>
<td>Week 12</td>
<td>5%</td>
<td>LO5</td>
<td>6 &amp; 7</td>
</tr>
<tr>
<td>IV. Project Presentation</td>
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<tr>
<td>Conceptual Final Exam: Summative questions</td>
<td>Exam week</td>
<td>30%</td>
<td>LO1, LO2, LO3 &amp; LO4</td>
<td>2, 3 &amp; 4</td>
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DRAFT
Course assignment descriptions:

Individual Activity

First Part: Inventory Exercise (13% of the Overall Grade):

This is an inventory exercise, students select from a list of categories (e.g. a public/academic library, a video-streaming service, an online shopping store, a search engine, a social media site, etc.) one type of information system with which they interact in their lives (use chapter 12 in Glushko, R. J. (2016) as reference). Then, they conduct observations of one of these systems and their operations. They will answer the following questions about the system:

- What is being organized in this system?
- Why is this information being organized?
- How much is it being organized?
- When is it being organized?
- How or by whom, or by what computational processes, is it being organized?
- Where is it being organized?
- Who was behind the construction of this system? How did you figure this out?
- Document how you answered the above questions. Where did you find this evidence? Cite specific web pages and articles.
- Describe your own actions when interacting with this system and reflect on the positives and negatives of this experience.

Second Part: Peer Review of Individual Activity (2% of the Overall Grade):

Students are individually assigned by the instructor to review two individual activity assignments completed by other students, and comment on the clarity and completeness of explanation.

Midterm exam (20%)

This is a multiple-choice quiz to assess the students’ knowledge of concepts concerning the informatization of life and the understanding of how information is organized, accessed and consumed and key facts from the historical development of informatics in society.

It is a 1-hour, closed-book, multiple-choice exam that will be held promptly at the beginning of class. Questions in the exam will evaluate basic understanding and application of knowledge of material presented in previous lectures and readings, including readings assigned for the test date.
Course Project - Reverse Engineering of an Information System (teams of 3-4 students):

First Part: Project Plan (10%)

Students in teams of 3-4 students choose an information organization system to reverse engineer. By reverse engineering, we mean to dissect analytically (and physically if possible) to understand and be able to explain how the system and its different components work to produce its intended informational outputs. The selected information system can be one that is used in their discipline or one of the systems that team members reviewed in their inventory assignment. In a minimum of 2 and a maximum of 4 pages, the team will describe their plan for their term project and create a timeline with details of the anticipated stages and benchmarks marking progress toward the completion of it. The Project Plan should include the following sections and answer the corresponding questions:

● Project Overview: name of the project, all involved students’ full names, information organization system chosen for this project and motivation for choosing this system. [optional] If an organization (e.g. company, non-profit, club, etc.) uses this system, and you have contacts and entry points to a specific organization, name of the organization you will be working with to have access to the “behind-the-curtains” parts of this system and explain how you are getting access to this information.

● Description of the target system to be deconstructed: Using concepts reviewed in our class, describe the organizing system and its components using the what/why/who/when/how heuristic.

● Goals and Objectives of the Reverse Engineering Project: What are your team learning goals for this project? Lay out the objectives that will have to be completed by your team during the allocated time of this class to complete this project and achieve your learning goals (e.g. get access to the specific chosen system, describe in details components and infrastructure, get access to information on the categories used to organize, visual and textual descriptions of how the multiple components fit together and work in unison to organize information, production of reports for presentation of this project, etc.)

● Activities and Resources: What will the project entail? What skills and resources will be required? Who will be involved and in what capacity? What are the specific activities that will be undertaken to achieve each of your objectives? What are the limitations of the project given the time frame and resources available?

● Timeline and Outcomes (“Deliverables”) The Project Plan should include a timeline that identifies key benchmark dates corresponding to the agreed activities, deadlines for class assignments and deliverables (e.g. Project Plan, Progress Report, Project Final Products, and Final Report/Presentation) as well as the anticipated dates when students will be communicating with each other, organization partner (if applicable), instructor and TA, about progress and the anticipated outcomes.

Second Part: Progress Report (5%)

In no more than one page, write a narrative of what your team has accomplished so far in your term project, progression on achieving objectives and milestones, the challenges you have encountered and how you have addressed them. It is expected that your team will review this progress report with your TA in a meeting between the TA and the group.
• Review the original objectives proposed in your Project Plan and, if applicable, comment on any significant changes to the objectives and the correspondent changes to the activities and timeline. How many of these objectives have you achieved so far? Are you on track to complete all of your objectives?
• Review the timeline that you submitted in your Project Plan assignment and verify completion of tasks, milestones, and deadlines. If your expected progress deviates from your original timeline, students should let the TA know, and indicate what adjustments need to be included in the project timeline. Students will discuss options and alternatives with the TA as needed.
• Comment on any major challenges that you have encountered during the development of this project and how you have addressed these challenges or, if it is a current challenge, how you are planning on solving it. These challenges may be internal to your team (e.g. coordination or communication issues within team members, etc.) or be related to the project itself (e.g. changing expectations or partners, communication with organization contacts, access to manuals or private information on how the system works, misalignment of project goals with class learning goals, etc.)
• Provide a half-way through evaluation of this project: is it providing you with an opportunity to apply what you are learning in class? Are you learning more about how informatics and information shape human identities, activities and/or behaviours? What gaps are you detecting in your knowledge and skills to excel in this project?

Third Part: Final Report and Presentation (20%)

Final Report (15%): Each team will write a blog article (2,000 words max) of the process, main products, and outcomes of their project on this class space on UBC Blogs on Canvas. Proposed outline for your blog article:

• Title of the project
• Names of students
• Names of community partner collaborators (if applicable)
• Introduction
• Description of the reverse engineering process: Provide a brief description of the process your team followed to have access to this system, the access to information sources, and details on steps implemented to conceptually break apart this system into its inner working components and mechanisms
• Description of findings: Brief summary of how this information organization system was designed, how it works in practice, how its components fit and work with each other, potential point of rupture and break. Provide a brief description of the context of this system and the infrastructures that it connects to and depends on. Use a black-box heuristic and diagrams to describe inputs, outputs, operators, controls, and raw materials of this system. Describe the importance/impact of this system to your discipline, specific organizations, and/or to broader society. Provide a rationale for deconstruction of this system, in other words, describe why it is complex to understand how it works without having access to “behind-of-the-scene” information of its inner-workings
• Critical review of this information organization system: who wins and who loses with this system and its technologies? What biases have been introduced into this system? What are the opportunities to redesign and improve on this system to make it better for society?
• Self-reflection: What did work well and what did not in this project? What did you learn from this project? How this project helped you achieve the learning objectives for this class? Overall, how do you evaluate this experience?

Project Presentation (5%): Your team will have no more than 10 minutes to visually (i.e. images, videos, oral presentation, etc.) present your term project to the class. Highlight in your presentation: your targeted system, its importance, your reverse engineering process, and interesting things that you learned when conceptually (and maybe physically) breaking it apart.

Conceptual Final Exam: Summative evaluation questions (30%)

This is a summative exam to assess the materials covered during the entire course.

The final exam will evaluate grasp of key concepts and theories in informatics and information studies [LO1][Multiple Choice], use of historical arguments to explain the role of scientific, social, and technological factors in the development of informatics [LO2][Short Essay Question], grasp of key aspects of the theory of human-information interaction [LO3][Multiple Choice], and application of common critical arguments to analyze the impact of informatics on a real-life case presented to them (e.g. use of apps for tracking of individuals as a response to COVID-19, social credit system in China, etc.) [LO4][Short essay question]

Course Schedule [week-by-week]:

The approximate number of pages of reading that students are required to do in this class every week is 30-40 pages. Some weeks will include audiovisual material that replaces one or both of the textual readings. The expected number of hours for students to prepare the assigned material for each week is no more than 2.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Resources: Readings / Podcasts / Videos</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1</td>
<td>Everything is Information: Informatics and the Informatization of life</td>
<td>8 Steps to understanding information (and maybe the universe), Phil Tetlow - TED Talks</td>
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<td></td>
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<td>How we can find ourselves in data, Giorgia Lupi - TED Talks</td>
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<td></td>
<td></td>
<td>Creating and organizing knowledge; standards and standardization</td>
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<tr>
<td>Week</td>
<td>Topic</td>
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<td>Assignments</td>
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<tr>
<td>W5</td>
<td>Making and shaping information systems</td>
<td>Granfield, M. (2013).</td>
<td>Individual activity is due</td>
</tr>
<tr>
<td>W6</td>
<td>How do we find our stuff?</td>
<td>Ruthven, I., &amp; Kelly, D. (2011): Ch. 1 &amp; 5</td>
<td>Midterm</td>
</tr>
<tr>
<td>W8</td>
<td>Am I ever alone online?</td>
<td>Lewis, N. L. (2020).</td>
<td>Course Project Plan</td>
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<td></td>
<td>Ideology in informatics and its impact on equality and power</td>
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<tr>
<td></td>
<td>• Ideology and social informatics</td>
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<td></td>
<td>• From theory to actions for the good</td>
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<td></td>
<td>• Computerization movements</td>
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<tr>
<td>W10</td>
<td>Am I the only one feeling overwhelmed here?</td>
<td>Lamont, T. (2020).</td>
<td>Course Project - Progress Report</td>
</tr>
<tr>
<td></td>
<td>• Disconnection &amp; slowing down</td>
<td>How Coronavirus Contact Tracing Apps Work.</td>
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<tr>
<td>W11</td>
<td>Keep Calm and Database (I)</td>
<td>Reuter &amp; Kaufhold (2018)</td>
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<td></td>
<td>Crisis Informatics and Social Media</td>
<td>Reuter et al. (2018)</td>
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<td></td>
<td>Sustainable informatics</td>
<td>Harris (2019). Digital Humanism - <a href="https://ischools.org/resources/Documents/Discipline%20of%20organizing/Informatics/TDO4-Informatics-CC.pdf">Making Sense with Sam Harris podcast</a></td>
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<tr>
<td></td>
<td>• Collapse informatics</td>
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<td></td>
<td>• Principles of Sustainable Systems</td>
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<tr>
<td>W13</td>
<td>Term Project Final Presentations</td>
<td>Course Project - Final Presentations and Report</td>
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### Required Materials:

**Textbook:**
Estimated cost of this textbook: The class textbook is open content and it is freely available to students.

Evaluation: All assignments will be marked according to standard UBC grading practices.

What you can expect from your Instructor and TAs: As your instructor I will do my best to provide a classroom environment that fosters stimulating discussion and where all students feel comfortable participating to the best of their ability. Outside the classroom I will be available to meet during office hours and I will attempt to accommodate students who cannot make it during that time. With respect to feedback, I will work with the TAs to return your work to you within one week of the date you submit your assignment / complete your quiz or exam. If you have questions about a grade, I encourage you to come speak with me during office hours.

Email Communication:
- Assignments must be submitted via Canvas, not via email.
- All course communication should be conducted through Canvas or your email account.
- All emails must include the course code (INFO 200) in the subject line.
- All emails should be signed with the student’s full name and student number.
- Emails from students will generally be answered within 2 working days of receipt. (Please don’t count on receiving last minute email answers to questions about an assignment. Plan ahead.)
- Treat emails as you would any other professional communication. Proofread. Use appropriate language. Be as concise as possible.

Academic Concession: If you miss marked coursework (assignment, exam, presentation, participation in class) and are an Arts student, review the Faculty of Arts’ academic concession page and then complete Arts Academic Advising’s online academic concession form, so that an advisor can evaluate your concession case. If you are a student in a different Faculty, please consult your Faculty’s webpage on academic concession, and then contact me where 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: Academic Accommodation for Students with Disabilities. 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.