DALHOUSIE UNIVERSITY

School of Information Management
INFO 6290: Managing Research Data
Summer 2021

Course Type (e.g. F2F, online, blended): Online – asynchronous lectures Mondays (excluding weeks of guest lectures), synchronous question/answer period (Collaborate Ultra - optional) on Thursdays 2:00-3:00pm (ADT), engagement in weekly Q&As in Discussions tool (required)
Instructor: Sandi Stewart
E-mail: Sandi.Stewart@dal.ca
Office hours: Thursdays 1:00pm - 2:00pm ADT
Course website: Brightspace

COURSE DESCRIPTION

Data is essential to the research process, and is an essential product of research. As the volume, variety, and velocity of research data continues to expand, researchers and funding agencies are recognizing the value of proactive research data management (RDM), and are turning to information professionals to help. This course covers RDM policy, plans, and practice through both theory and practical application. Students will gain and put into practice knowledge on how to assess requirements; produce practical plans; manage data throughout its lifecycle; curate, preserve, and rescue data; and work with international research data standards, across a variety of disciplines.

ACKNOWLEDGEMENT

I am indebted to Mike Smit and Elvira Mitraka for their contributions to the development of this course and continued support and mentorship.

COURSE PRE-REQUISITES

Students will benefit from having familiarity with the research process, for example through a research methods course (like INFO 5520), but this is not strictly required.

LEARNING OBJECTIVES

The goal of this course is to prepare students to manage research data in multiple contexts for multiple disciplines. This includes understanding of data and its role in the research process, creating and critiquing data management plans, using tools and policy to effectively manage data and metadata through the research project lifecycle, and communicating effectively to understand stakeholder needs and manage the change that research data management represents to researchers, institutions, and information professionals.

LEARNING OUTCOMES

1. Understand and describe a variety of motivations for managing research data, and effectively communicate these motivations to manage change
2. Identify the current state and prospective trends in research data management (RDM)

3. Elicit RDM requirements from stakeholders, and communicate mechanisms for meeting those requirements
4. Assess and evaluate RDM tools
5. Author, evaluate, communicate, and critically assess data management plans (DMPs)
6. Identify similarities and differences in RDM across multiple disciplines
7. Demonstrate understanding of the concerns around sharing data / open research data, including legal/research ethics concerns, and around closed data.
8. Identify the elements of a successful RDM service, including human, software, and hardware infrastructure
9. Identify principles of curation and preservation of data
10. Identify and apply metadata and documentation standards
11. Possess technical skills and experience managing and preserving research data
12. Ability to assess data collections and services.
13. Identify data management challenges and opportunities in a variety of contexts
14. Understand the research data lifecycle, and identify strategies to effectively manage data throughout its lifecycle

TECHNOLOGY USED

A variety of data tools.

INSTRUCTIONAL METHODS

Lecture (asynchronous), readings, class discussion (asynchronous/synchronous), experiential learning.

LEARNING MATERIALS

1. Corti, L., Van den Eynden, V., Bishop, L., & Woollard, M. (2020). *Managing and sharing research data: a guide to good practice* (2nd ed.). Sage.

Electronic Copy available from VitalSource

Supplemental readings will be drawn from academic literature and case studies, as listed on Brightspace.

METHODS OF EVALUATION

Detailed instructions regarding each assignment will be provided. Assessment of all assignments is directly related to attention to the instructions, clarity of expression and presentation, and evidence of significant analysis and reflection.

See also the SIM Grading Policy.

COMPONENT	DETAILS	DUE DATE	VALUE
Assignment #1 - DMP Summary Review	Review several data management plans (DMP) along with an overview of the research the scholars plan to undertake. Assess the DMP using the criteria discussed in class, and provide the researchers with a) suggested		15%

	changes and b) the reasons why it will benefit them to make this change; provide us with an overall grade for the DMP.		
Assignment #2	Each student will interact with Open Data Nova Scotia, download research datasets of their interest and try to consolidate and work with them.		15%
Assignment #3	The students will conduct a literature review on a research area of their choice in preparation for a research proposal that includes a research data management plan.		20%
Assignment #4	The students will prepare a research proposal, based on Assignment #3. The final proposal will be presented in class.		30% (20% & 10%)
Participation	Active participation in weekly discussions. Opportunity to attend (optional) synchronous sessions to take part in weekly discussions with the class related to assigned questions/readings. Engage in the dialogue process (required) by responding to weekly questions in the discussions tool on Brightspace. See rubric below.		20% (respond to weekly Q&As - minimum 10 written responses, plus offer constructive peer feedback in efforts to support teamwork and collective learning)

PARTICIPATION EVALUATION RUBRIC

CRITERIA	WEIGHTING	INDICATORS
Preparation	30%	The student demonstrates consistent preparation for class; readings are always completed and the student is able to relate readings to each other and to other course material (discussions, presentations, guest speakers, etc.)
Quality of contributions	30%	The student's comments are relevant and reflect understanding of readings and other course material. The student's contributions move the discussion forward.
Frequency of participation	20%	The student is actively engaged in the class and/or discussions at all times.
Attendance/Punctuality	20%	The student is always punctual and no unexcused absences (contributes to weekly discussions).

INTEGRATION OF MI Competencies

PROGRAM COMPETENCY	COURSE LEARNING OUTCOME	COURSE ASSESSMENT
Information Management Leadership	1, 2, 3, 7, 8, 13	A3, A4
User-centred Information Services	1, 3, 4, 7	A1, A3, A4
Management of Information Technology	1, 2, 4, 8, 9, 10, 11	A1, A3, A4
Research and Evaluation	1, 4, 5, 6, 12, 14	A3, A4
Risk Management	1, 3, 7, 13	A2, A3, A4
Change Management	1, 3, 7, 13	A2, A3, A4
Workplace Skills & Attributes:		
Collaborate & communicate	1, 3, 5, 8	A2, A3, A4
Organize, Plan & Manage	1, 2, 3, 5, 8, 12, 13, 14	A1, A3, A4
Develop Personally & Professionally	1, 5, 7, 14	A2, A3, A4

CLASS POLICIES

Attendance
Class attendance is required in all MI courses and is included in the participation mark. Attendance records will be kept by the instructor.

Citation Style
SIM courses use APA as the default standard citation style. Unless the instructor provides alternative written instructions, please use the APA citation style in your assignments to briefly identify (cite) other people's ideas and information and to indicate the sources of these citations in the References list at the end of the assignment. For more information on APA style, consult Dalhousie Library website at https://libraries.dal.ca/help/style-guides.html or the APA's Frequently Asked Questions about APA

Late penalties for assignments
A penalty for late assignments will be assessed, unless prior permission has been given by the instructor to submit an assignment late, which normally will be for extended illness, medical, or family emergencies only (see below). Late submissions will be assessed a penalty of five percent per day, including weekends. Assignments will not normally be accepted seven days or more after the due date; in such cases the student will receive a grade of zero.

Missed or Late Academic Requirements due to Student Absence:
Dalhousie University recognizes that students may experience short-term physical or mental health conditions, or other extenuating circumstances that may affect their ability to attend required classes, tests, exams or submit other coursework.

Dalhousie students are asked to take responsibility for their own short-term absences (3 days or less) by contacting their instructor by phone or email prior to the academic requirement deadline or scheduled time **AND** by submitting a completed Student Declaration of Absence form to their instructor in case of missed or late academic requirements. Only 2 separate Student Declaration of Absence forms may be submitted per course during a term.

SIM GRADING POLICY

A+	90-100	Demonstrates original work of distinction.
A	85-89	Demonstrates high-level command of the subject matter and an ability for critical analysis.
A-	80-84	Demonstrates above-average command of the subject matter.
B+	77-79	Demonstrates average command of the subject matter.
B	73-76	Demonstrates acceptable command of the subject matter.
B-	70-72	Demonstrates minimally acceptable command of the subject matter.
F	<70	Unacceptable for credit towards a Master's degree.

ACCOMMODATION POLICY FOR STUDENTS

The Student Accessibility Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students on the Halifax campus who request accommodation as a result of: a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (NS, NB, PEI, NFLD).
If there are aspects of the design, instruction, and/or experiences within this course that result in barriers to your inclusion please contact the Student Accessibility Centre. Please visit www.dal.ca/access for more information and to obtain the Request for Accommodation form.

A note taker may be required as part of a student's accommodation. Visit https://www.dal.ca/campus_life/academic-support/accessibility/accommodations-/classroom-accommodation.html for more details.

Please note that your classroom may contain accessible furniture and equipment. It is important that these items remain in the classroom, undisturbed, so that students who require their use will be able to fully participate.

ACADEMIC INTEGRITY

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect. As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

The commitment of the Faculty of Management is to graduate future leaders of business, government and civil society who manage with integrity and get things done. This is non-negotiable in our community and it starts with your first class at Dalhousie University. So when you submit any work for evaluation in this course or any other, please ensure that you are familiar with your obligations under the Faculty of Management's Academic Integrity Policies and that you understand where to go for help and advice in living up to our standards. You should be familiar with the Faculty of Management Professor and Student Contract on Academic Integrity, and it is your responsibility to ask questions if there is anything you do not understand.

Dalhousie offers many ways to learn about academic writing and presentations so that all members of the University community may acknowledge the intellectual property of others. Knowing how to find, evaluate, select, synthesize and cite information for use in assignments is called being "information literate." Information literacy is taught by Dalhousie University Librarians in classes and through Dalhousie Libraries' online Citing & Writing tutorials.

Do not plagiarize any materials for this course. For further guidance on what constitutes plagiarism, how to avoid it, and proper methods for attributing sources, please consult the University Secretariat's Academic Integrity page.

Please note that Dalhousie subscribes to plagiarism detection software that checks for originality in submitted papers. Any paper submitted by a student at Dalhousie University may be checked for originality to confirm that the student has not plagiarized from other sources. Plagiarism is considered a very serious academic offence that may lead to loss of credit, suspension or expulsion from the University, or even the revocation of a degree. It is essential that there be correct attribution of authorities from which facts and opinions have been derived. At Dalhousie, there are University Regulations which deal with plagiarism and, prior to submitting any paper in a course; students should read the Policy on Academic Dishonesty contained in the Calendar.

Furthermore, the University's Senate has affirmed the right of any instructor to require that student assignments be submitted in both written and computer readable format, e.g.: a text file or as an email attachment, and to submit any paper to a check such as that performed by the plagiarism detection software. As a student in this class, you are to keep an electronic copy of any paper you submit, and the course instructor may require you to submit that electronic copy on demand. Use of third-party originality checking software does not preclude instructor use of alternate means to identify lapses in originality and attribution. The result of such assessment may be used as evidence in any disciplinary action taken by the Senate.

Finally:

If you suspect cheating by colleagues or lapses in standards by a professor, you may use the confidential email: ManagementIntegrity@dal.ca which is read only by the Assistant Academic Integrity Officer.

Faculty of Management clarification on plagiarism versus collaboration:

There are many forms of plagiarism, for instance, copying on exams and assignments. There is a clear line between group work on assignments when explicitly authorised by the professor and copying solutions from others. It is permissible to work on assignments with your friends but only when the professor gives you permission in the specific context of the assignment. University rules clearly stipulate that all assignments should be undertaken individually unless specifically authorised.

Specific examples of plagiarism include, but are not limited to, the following:

- Copying a computer file from another student, and using it as a template for your own solution
- Copying text written by another student
- Submitting the work of someone else, including that of a tutor as your own

An example of acceptable collaboration includes the following:

- When authorised by the professor, discussing the issues and underlying factors of a case with fellow students, and then each of the students writing up their submissions individually, from start to finish.

UNIVERSITY STATEMENTS

This course is governed by the academic rules and regulations set forth in the University Calendar and the Senate.

ACCESSIBILITY

The Advising and Access Centre serves as Dalhousie's Centre for expertise on student accessibility and accommodation. Our work is governed by Dalhousie's Student Accommodation Policy, to best support the needs of Dalhousie students. Our teams work with students who request accommodation as a result of: disability, religious obligation, an experienced barrier related to any other characteristic protected under Canadian Human Rights legislation.

STUDENT CODE OF CONDUCT

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

DIVERSITY AND INCLUSION

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. Dalhousie is strengthened in our diversity and dedicated to achieving equity. We are committed to being a respectful and inclusive community where everyone feels welcome and supported, which is why our university prioritizes fostering a culture of diversity and inclusiveness.

RECOGNITION OF MI'KMAQ TERRITORY

Dalhousie University is located in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq. We are all Treaty people. For more information about the purpose of territorial acknowledgements, or information about alternative territorial acknowledgements if your class is offered outside of Nova Scotia, please visit https://native-land.ca/.

The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit the office in the McCain Building (room 3037) or contact the programs at elders@dal.ca or 902-494-6803 (leave a message).

FAIR DEALING POLICY

The Dalhousie University Fair Dealing Policy provides guidance for the limited use of copyright protected material without the risk of infringement and without having to seek the permission of copyright owners. It is intended to provide a balance between the rights of creators and the rights of users at Dalhousie.

COURSE SCHEDULE

Date of Class	Topics & Assignments	Required Readings/Discussion Questions
May 3	A short review (defining data, types of data, and data formats) and why data needs to be managed and shared.	Readings will be posted under Contents each week in Brightspace. Discussion questions will be shared in the discussions tool on Mondays. Each week, participate in the Q&As by sharing your initial response by end of day Friday, then respond to at least one of your peer's posts by end of day Sunday.
May 6	*Q&A session (2:00-3:00pm)*	
May 10	Data lifecycle and models, Data management plans: Their content & tools to help build them.	
May 11 (1:00pm-2:00pm)	**Guest Speaker:** Louise Gillis, Research Data Librarian, Liaison Librarian for Psychology and Neuroscience, Dalhousie Libraries	
May 13	*Q&A session (2:00-3:00pm)*	
May 17	The data interview. Data sharing and discovery. Assessing data repositories, software and technology, and data citation.	
May 19	**Assignment 1 Due: May 19th at 11:59pm**	

May 20	*Q&A session (2:00-3:00pm)*	
May 24	Victoria Day, University closed	
May 25	Get started using DMP, explore Open Data Nova Scotia, and more!	
May 27	*Q&A session (2:00-3:00pm)*	
May 31	The research practices and data management needs of science and health research.	
June 3	*Q&A session (2:00-3:00pm)*	
June 7	The research practices and data management needs of social science & humanities research.	
June 8 (3:00pm-4:00pm)	**Guest Speaker:** Julie Marcoux, Data Librarian and member of the Computer Science Library Team, Dalhousie Libraries	
June 9	**Assignment 2 Due: June 9th at 11:59pm**	
June 10	*Q&A session (2:00-3:00pm)*	
June 14	Metadata for data: Metadata crosswalks and how to explain metadata to others	
June 17	*Q&A session (2:00-3:00pm)*	
June 21	Software and hardware for data manipulation, rescue, and preservation.	
June 24	*Q&A session (2:00-3:00pm)*	
June 28	Data sharing and reuse: Practice vs. Policy.	
June 30	**Assignment 3 Due: June 30th at 11:59pm**	
June 30	*Rescheduled Q&A session (2:00-3:00pm)*	
July 1	Canada Day, University closed	

July 5	Legal implications to data sharing: Addressing sensitive data, privacy, and intellectual property concerns.	
July 5 (2:00pm-3:00pm)	**Guest Speaker:** Carla Heggie, Adjunct Professor, Faculty of Computer Science; School of Information Management, Faculty of Management	
July 8	*Q&A session (2:00-3:00pm)*	
July 12	Assessing data: Collection development. Digital preservation. Data Curation.	
July 15	*Q&A session (2:00-3:00pm)*	
July 19	Trends in data management: Semantic web, linked data, other emerging data trends, and job prospects in this field.	
	Guest Speaker: TBA	
July 22	*Q&A session (2:00-3:00pm)*	
July 23	**Assignment 4 Due: July 23rd at 11:59pm**	
July 26	**Presentations**	