Dawson College

Research Data Management (RDM) Strategy[1]

Background

In March 2021, the Tri-Agency[2] launched a [Research Data Management (RDM) Policy](#) with the objectives of promoting RDM and data stewardship practices amongst Canadian researchers. The Tri-Agency RDM Policy will be implemented with an incremental approach, in step with continuing development of RDM practices and capacities in Canada and internationally.

The Tri-Agency has communicated three key phases[3]:

1. Data management plans: By Spring 2022, the agencies will identify an initial set of funding opportunities where researchers will be required to submit a data management plan with their grant proposal.
2. Institutional strategies: By 1 March 2023, each post-secondary institution and research hospital eligible to administer Tri-Agency funds is required to create an institutional RDM strategy, publicly post the strategy, and notify the agencies when completed.
3. Data deposit: After reviewing the institutional RDM strategies, and in line with the readiness of the Canadian research community, the agencies will phase in the data deposit requirement. In addition to any existing sponsor requirements, grant recipients will be required to archive all digital research data, metadata and code that directly support research conclusions in journal publications and pre-prints into a digital repository. There is no current timeframe for this requirement.

Dawson College is committed to meeting the Tri-Agency RDM requirements and supports its researchers in adopting the practices detailed within the policy by offering support, guidelines, and protocols.

This RDM Strategy outlines the approach Dawson will take over the next five (5) years to equipment its research community with knowledge, tools, and best practices in Research Data Management. As a living document, the RDM Strategy will be reviewed yearly and amended to both reflect and adapt to the evolving requirements and policies of research data management.

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[1] This document was created using a template provided by the Fédération des Cégeps and with the aid of McGill University; Queen's University; George Brown College; Niagara College; Bishop's University; Sheridan College

[2] The Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council (NSERC), and the Social Sciences and Humanities Research Council (SSHRC)

[3] https://www.science.gc.ca/eic/site/063.nsf/eng/h_97610.html

It is critical to note the RDM Strategy is a roadmap and should not be taken as an established policy.

What is Research Data Management (RDM)?

According to the Tri-Agency Research Data Management Policy:

> Research data management (RDM) refers to the processes applied through the lifecycle of a research project to guide the collection, documentation, storage, sharing and preservation of research data.[4]

> RDM is essential throughout the data lifecycle—from data creation, processing, analysis, preservation, storage and access, to sharing and reuse (where appropriate), at which point the cycle begins again. Data management should be practiced over the entire lifecycle of the data, including planning the investigation, conducting the research, backing up data as it is created and used, disseminating data, and preserving data for the long term after the research investigation has concluded.[5]

> The agencies acknowledge the diversity of models of scientific and scholarly inquiry that advance knowledge within and across the disciplines represented by agency mandates. The agencies, therefore, recognize that significant differences exist in standards for RDM—including what counts as relevant research data—among and across the disciplines, areas of research, and modes of inquiry that the agencies support.[6]

Why is Research Data Management (RDM) important?

According to the Tri-Agency Research Data Management Policy:

> RDM enables researchers to organize, store, access, reuse and build upon digital research data. RDM is essential to Canadian researchers 'capacity to securely preserve and use their research data throughout their research projects, reuse their data over the course of their careers and, when appropriate, share their data. Furthermore, as an acknowledged component of research excellence, strong RDM practices support researchers in achieving scientific rigour and enable collaboration in their fields.[7]

Guiding Principles

The following guides RDM at Dawson College:

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[4] Adapted from PORTAGE definition https://portagenetwork.ca/wp-content/uploads/2019/08/Primer_RDM_August2019_EN.pdf
[5] Adapted from CASRAI definition https://casrai.org/term/research-data-management/
[6] https://www.science.gc.ca/eic/site/063.nsf/eng/h_97609.html#1d
[7] https://www.science.gc.ca/eic/site/063.nsf/eng/h_97609.html#1e

1. Research Excellence

Dawson College acknowledges that strong Research Data Management practices enhances proper data stewardship and strengthens ethical research. As stated by the Tri-Agency, sound practices ensure "that research is performed ethically and makes good use of public funds, experiments and studies are replicable, and research results are as accessible as possible. Research data management (RDM) is a necessary part of research excellence".[8]

2. Researcher Focused

Dawson College recognises that each research disciplines have different data management needs and therefore we will promote flexible RDM practices that is easily adaptable and provide discipline specific tools.

3. Respect for Indigenous Communities

Dawson College acknowledges and promotes Indigenous self-governance, specifically as it pertains to research data, including but not limited to collection, analysis, application, and ownership of Indigenous data. We will ensure that the rights and interests of Indigenous Communities, particularly First Nations, Métis, and Inuit communities, are respected and upheld. We encourage distinct RDM practices, such as OCAP and CARE, to promote and respect data sovereignty.

4. Strong Collaboration

Research cannot happen in a vacuum, and so Dawson promotes research collaboration. Sound RDM practices will only enhance research collaboration.

5. Open Access

Open access ensures that research is fully transparent. By openly sharing data, researchers are contributing to the development of new knowledge and strengthens research integrity. Through our commitment to open access, we will ensure that our approach conforms with the FAIR Principles (*F*indable, *A*ccessible, *I*nteroperable, and *R*eusable)[9].

RDM Components

Guided by the principles described above, Dawson College's Research Data Management Strategy is divided into four (4) components: awareness and support; harmonised best practice; training; and continuous assessment and adaption.

1. Awareness and Support

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[8] https://science.gc.ca/eic/site/063.nsf/eng/h_97610.html

[9] Wilkinson, M., Dumontier, M., Aalbersberg, I. *et al.* The FAIR Guiding Principles for scientific data management and stewardship. *Sci Data* **3,** 160018 (2016). https://doi.org/10.1038/sdata.2016.18
https://www.nature.com/articles/sdata201618

Awareness and support are the foundation upon which the College builds its research data management strategy. By engaging with Dawson's research community and disseminating information about our strategy we are able to be highlight the importance of efficient, ethical, and sustainable data management.

Collaborating with Library Services and Information and Technology Services (IST), the Research Office will be providing information, resources, repositories, and guidelines in research data management.

Information about Dawson RDM Strategy, RDM requirements, resources, training, and other matters will be communicated on an ad hoc basis through established channels.

2. Harmonised Best Practices

A coherent research data management strategy requires harmonised best practices in the area. Dawson College has a number of research-related policies, such as: academic integrity policy; integrity in research and scholarship policy; policy on conflicts of interest; and policy for the ethical conduct of research involving humans.

These policies are reviewed and revised regularly and may include updates regarding research data managements; anonymization of data; retention and eventual destruction of data, etc., as required by the federal and provincial granting agencies. Dawson College will commit to communicating the changes on an ad hoc basis to our research community.

To ensure a comprehensive research data management, it is important that the related practices are harmonised. This includes the creation of a RDM plan using an institutionally recognised template to attach to their grant application (should it be required); *the ethical and sustainable collection of data as determined by the field and discipline*; and by the end of the project, depositing of data to a College recognised digital platform, as per the requirements of the discipline and its related ethical guidelines.

Until a College recognised digital platform for data deposits has been identified and integrated, it is recommended that Researchers store their data and research onto their secure OneDrive portal, available through Dawson College. Dawson College's OneDrive is secure, complies with strict Canadian regulation, and is readily accessible.

3. Training

In order to ensure that Dawson College's research community is fully versed, research staff will be provided training opportunities, and will provide guidelines and educational resources to the researchers. These may be offered internally and externally, delivered by different stakeholders, and may consist of webinars, documents, modules, videos, and/or conferences.

Further details are provided in the next section (Institutional Actions and Support).

4. **Assessment and Adaption**

To ensure that the research data management strategy is based on the most up-to-date research and best practices, the institution will periodically assess, recommend, and adapt its RDM approach and implementation. We will assess Dawson's capacity by evaluating its size, research activities, and resources, all of which must be reflected in its research data management strategy. If necessary, changes to the strategy will be made to adapt to the evolving realities of Dawson College's research community.

Additionally, the entire supply chain, from first publication of the research data management strategy to continual use of the digital repository, will be regularly evaluated. This is to ensure that the process is efficient, ethical, and sustainable, whilst complying with the current standard and practices.

Institutional Actions and Support

To facilitate the adoption of our institutional strategy and to promote RDM best practices, Dawson College will take every reasonable measure to raise awareness, train staff, and support and/or provide access to tools and resources. The following will be implemented:

- Promoting Dawson College's Institutional RDM Strategy and any updates to Dawson Research Community.

- An online, asynchronous training module on RDM specifically targeted to Dawson Researchers that will impart RDM best practices, tools, and discipline-specific resources is being developed. Currently, we will suggest the free online modules offered by Digital Research Alliance of Canada (formerly Portage Network) and University of Edinburgh's MANTRA course.

- Provide access to data repositories that is supported by Dawson College.

- Guides and Workshops. Guides and workshops, both synchronous and asynchronous, on various RDM domains are being developed and will be offered to the Dawson Research Community beginning 2022-2023. These include:
    - Introduction to RDM
    - How to Develop a DMP
    - How to Manage Data
    - Organising Sensitive Data

- First Nations, Métis, and Inuit and Data Management
- RDM and Best Practices
- Data and Open Access

Each guide will have a checklist and will include cross-disciplinary examples.

- Collaborate with First Peoples Centre, Peace Centre, Sustainable Dawson, and Accessibility to create an Institutional RDM policy to ensure EDIA (equity, diversity, inclusion, and accessibility) and Decolonisation and Indigenisation is embedded in the policy's fabric. This policy will be composed with the active participation of researchers, representatives from IST and Library, and other active stakeholders.

- Create, with First Peoples Centre and Peace Centre, a First Nations, Métis, and Inuit specific RDM guideline.

- Continuously offer, expand, and update resources, tools, information, and support to our Dawson Research Community.

- Provide RDM professional development to our Library, IST, and Research Office staff.

- Review and modify with all active researchers, IST, Library, Research Office, First Peoples Centre, and other stakeholders Dawson RDM Strategy yearly for the first five (5) years (until 2027) and then every second year (2029, 2031, and so forth).

Scope

This strategy applies to all Dawson College's researchers, including students, staff, and faculty in all disciplines. Dawson College will take reasonable measures to ensure that our researchers are made of this strategy and have the tools and support to practice sound research data management.

Oversight and Review

The Academic Dean and the Dean of Office of Academic Development will oversee the creation of the strategy. They will be supported by the Research Office, Library Services, and Information and Technology Services in implementing the strategy.

APPENDIX

Implementation Plan

COMPONENT	ACTIONS	IMPLEMENTATION
AWARENESS AND SUPPORT	• Creation of Research Data Management Strategy	• 2022—Summer
	• Awareness of new requirements for granting agencies	• 2022—Fall
	• Implementation of RDM Strategy	• 2023—Winter
	• Communication of RDM Strategy	• 2023—Winter
	• Identification of RDM digital repository	• 2023—Summer
	• Communication of College specific RDM guidelines	• 2023—Summer
	• Communication of EDIA and Indigenous RDM Policy	• 2024—Winter
	• Revision and communication of revised RDM Strategy	• 2024—Winter
	• Communication of RDM online training module	• 2024—Winter
HARMONISED BEST PRACTICES	• Training in RDM for professionals	• 2022—Fall
	• Review of research-related policies and updates regarding RDM principles (research ethics, intellectual property, responsible conduct, conflicts of interest), if necessary. Communication of updates, if applicable.	• 2023—Winter
	• Creation of a College-recognised RDM template for grant applications	• 2023—Winter
	• Identifying and approving an Institutionally recognised digital platform for data deposits	• 2023—Summer
	• Formation of a RDM Policy working group	• 2023—Fall
	• Re-evaluation of RDM template	• 2024—Winter

	• RDM Policy writing, consultation, and approval	• 2024—Fall
TRAINING	• Creation of an RDM resource centre for researchers	• 2023—Winter
	• Creation of RDM guides and tools for researchers	• 2023—Summer
	• Creation of an asynchronous RDM training module	• 2023—Summer
	• Biannual RDM-related workshops begin	• 2024—Winter
ASSESSMENT AND ADAPTION	• Creation of an RDM evaluation working group	• 2023—Fall
	• Re- evaluation of RDM digital repository	• 2024—Winter
	• Anonymous online survey and suggestions for improvement created and launched	• 2024—Winter
	• Evaluation and assessment of the research data management tools, templates, training, policies, etc., and modifications, if necessary	• 2025—Fall

Resources[10]

RDM
- [Digital Research Alliance of Canada (formerly Portage Network)](#)
- [University of Calgary's Additional Resources](#)

DMP
- [DMP Assistant](#)
- [Institutional RDM strategy template](#)

Federal Repositories
- [Dataverse](#)
- [Federated Research Data Repository](#)
- [Repository Options in Canada](#)

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[10] https://www.science.gc.ca/eic/site/063.nsf/eng/h_97609.html#5a

International Repositories

- [Directory of Open Access Repositories](#)
- [Re3data registry](#)

Safeguarding

- [Canadian Cyber Security Tool](#)
- [Safeguarding Science](#)
- [Safeguarding Your Research](#)

Archives and Open Access

- [Compute Canada](#)
- [Digital Curation Centre](#)
- [Érudit](#)
- [Inter-university Consortium for Political and Social Research](#)
- [UK Data Archive](#)

Training

- [CANARIE](#)
- [Données de la Recherche Apprentissage Numérique](#)

Organisations

- [Research Data Canada](#)
- [The Committee on Data of the International Science Council](#)
- [Consortia Advancing Standards in Research Administration Information](#)
- [Global Indigenous Data Alliance (GIDA)](#)
- [GO FAIR](#)
- [Research Data Alliance](#)