

Appendix A: Marketing Email

Marketing:

Below is a copy of the marketing email sent to the liaisons for groups such as Information School listserv, health sciences libraries lists, teaching and learning librarians list, engineering graduate students, forest resources graduate students, college of the environment, and a few others.

The UW Libraries is offering a series of classes designed to help students involved in data-intensive research learn how to manage and protect their data, as well as consider other issues such as data sharing and reuse. All disciplines are welcome, as are all student levels. If you are a faculty member who supervises students who are involved in data-intensive research, please encourage them to register for this workshop series.

This Seven-week series will be held on **Wednesdays from 3:30-4:30pm in Odegaard Library, Room 220**, beginning **1/22/14 (last class will be 3/5/14)**. Each session will feature a lecture, relevant readings, exercises to help illustrate concepts, and an accompanying Canvas site for simultaneous and future reference. The seven topics are:

- Overview of Research Data Management
- Types, Format and Stages of Data
- Contextual Details Needed to Make Data Meaningful to Others (aka, Metadata)
- Data Storage, Backup and Security
- Legal and Ethical Considerations for Research Data
- Data Sharing & Reuse Policies
- Archiving and Preservation

To register for one or more sessions, please fill out the following survey: (URL was provided here)
Please contact xxx@uw.edu if you have any questions.

Appendix B: Readings and Exercises

The charts below display the changes between the provided NECDMC activities and readings, and the activities and readings chosen for the UW pilot course. Changes were typically made for three reasons: to reduce the amount of time spent on outside reading (since this was a no-credit class, instructors were trying to keep the workload light); to add information based on personal preference; and for local relevance.

NECDMC information taken from the module list at:

<http://library.umassmed.edu/necdmc/modules>.

UW pilot information taken from the Canvas site at: <https://canvas.uw.edu/courses/889213>.

Module	NECDMC Activities	UW Pilot Activities
1: Overview of Research Data Management	<p>Create a data management plan for one of the cases using the simplified data management plan template discussed on page 10-11.</p> <p>Have participants explore the data services and research support services located at their institutions. (Conducting an Institutional Scan of DMP Resources (Word Document, 25 KB))</p>	<p>Read the case study: Research Data Management Case: Outcomes from Orthopedic Implant Surgery. Break into groups, each of whom will discuss one aspect of the Simplified Data Management Plan</p> <p>https://canvas.uw.edu/courses/889213/pages/simpledmp).</p>
2: Types, Formats and Stages of Data	<ol style="list-style-type: none"> 1. Identify and discuss the potential file formats used in a case. 2. Match data examples in the case to appropriate stages of the research data life cycle. 3. Complete a file plan and folder structuring exercise (located on page 12). 4. Complete the mini-case on pages 9-11. 5. Complete these case-based questions regarding file formats and types of data. 	<p>Read coastal areas mini-case and answer questions.</p>
3: Contextual Details Needed to Make Data Meaningful to Others	<ol style="list-style-type: none"> 1. Using a research case, identify and discuss the basic project information that could be documented using metadata. 	<p>For this exercise, we'll divide into groups and read one of three case studies (to be handed out), then answer the questions at the bottom of the case study.</p>

	<ol style="list-style-type: none"> 2. Identify core metadata in a sample repository metadata template. 3. Locate metadata and ontology schema for documenting data in your discipline. 	<p>Studies http://library.umassmed.edu/necdmc/research_cases):</p> <ul style="list-style-type: none"> ● Health study in lab using derived data from multiple projects: Combining Data from 10 Years of Research for Retrospective Studies on the Effects of Exercise and Diet on the Risk of Diabetes ● Qualitative behavioral study: Improving End-of-Life Care for African Americans ● Clinical health study: Outcomes from Orthopedic Implant Surgery
<p>4: Data Storage, Backup and Security</p>	<ol style="list-style-type: none"> 1. Using a research case, discuss a data storage, backup, and security plan. 2. Complete the case-based questions on page 14. 3. Complete the data storage, backup, and security checklist. 	<p>Complete the data storage, backup, and security checklist.</p>
<p>5: Legal and Ethical Considerations for Research Data</p>	<ol style="list-style-type: none"> 1. Read this Columbia RCR case. Discuss the ownership issues and answer the questions. 2. Locate, review, and discuss the Intellectual Property (IP) Policy of your local institution. 3. Locate, review, and discuss your local Institutional Review Board (IRB) policies to see what information they have regarding data management (e.g. patient privacy, data retention guidelines, informed consent, etc.). 4. Identify the components of a data citation used in your discipline's literature. 5. Using one of the research cases, examine its legal and ethical issues. (Examples of 	<p>Discussion with UW-IT staff on-hand, and UW data librarian.</p>

	<p>case-based ethical and legal questions and assessment).</p> <p>6. Complete an anonymization/de-identifying activity.</p>	
6: Data Sharing and Reuse Policies (NECDMC); Data Sharing and Reuse Policies; Archiving and Preservation (UW)	<ol style="list-style-type: none"> 1. Investigate whether there is an open access policy at your institution. 2. Compare policies of non-open publishers and open publishers. 3. Complete a data citation activity. 	Data Appraisal activity (NECDMC module activity 7a)
7: Repositories, Archiving and Preservation (NECDMC); Open lab with DMPTool, EZID, ORCID (UW)	<ol style="list-style-type: none"> 1. Data Appraisal Activity 2. Data Retention Activity 	Open lab time with assistance for DMPTool, EZID, and ORCID

Module	NECDMC Readings	UW Pilot Readings
<p>1: Overview of Research Data Management</p>	<ol style="list-style-type: none"> 1. University of Edinburgh. Defining Research Data. http://datalib.edina.ac.uk/xerte/play.php?template_id=9 2. University of Oregon Libraries. Defining Research Data. http://library.uoregon.edu/datanagement/datadefined.html 3. University of Minnesota Libraries. Funding Agency and Data Management Guidelines https://www.lib.umn.edu/datanagement/funding 4. White House OSTP (2013). Increasing Access to the Results of Federally Funded Scientific Research http://www.whitehouse.gov/sites/default/files/microsites/ostp/ostp_public_access memo_2013.pdf 5. Promoting the Stewardship of Research Data, Ensuring the Integrity, Accessibility, and Stewardship of Research Data in the Digital Age (2009): pages 95-99 http://books.nap.edu/openbook.php?record_id=12615&page=95 6. Why Share Data? UK Data Archive http://www.data-archive.ac.uk/create-manage/planning-for-sharing/why-share-data 7. Joint Data Archiving Policy. http://datadryad.org/pages/jdap 8. Introduction: A Revolution in Science: p.11-13 from Harnessing the Power of 	<p>Prior to first class, please:</p> <ul style="list-style-type: none"> • watch the video “Data Sharing and Management Snafu in 3 Short Acts,” (<5min), http://www.youtube.com/watch?v=N2zK3sAtr-4 • read “10 Simple Rules for the Care and Feeding of Scientific Data,” https://www.authorea.com/users/3/articles/3410/show_article <p>Readings for Module 1 (Don’t be scared by how many they are, they’re short and quick to read):</p> <ol style="list-style-type: none"> 1. Promoting the Stewardship of Research Data, Ensuring the Integrity, Accessibility, and Stewardship of Research Data in the Digital Age (2009): pages 95-99. http://books.nap.edu/openbook.php?record_id=12615&page=95 2. Why Share Data? UK Data Archive: http://www.data-archive.ac.uk/create-manage/planning-for-sharing/why-share-data and Research Data Lifecycle, http://www.data-archive.ac.uk/create-manage/life-cycle 3. Steps in the Research Life Cycle, Scientific Data Consulting, University of Virginia Library. http://www2.lib.virginia.edu/brown/data/lifecycle.html 4. Funding Agency and Data Management Guidelines. http://www.lib.umn.edu/datanagement/funding 5. Data Management Plan definition, from Wikipedia. http://en.wikipedia.org/wiki/Data_management_plan 6. Example Data Management Plan. http://www.dataone.org/sites/all/

	<p>Digital Data for Science and Society (2009) http://www.nitrd.gov/about/harnessing_power_web.pdf</p> <p>9. Office of Research Integrity, US Department of Health and Human Services. Guidelines for Responsible Data Management in Scientific Research. http://ori.hhs.gov/images/dd_block/data.pdf</p> <p>10. DataONE Best Practices. http://www.dataone.org/best-practices</p> <p>11. Example Data Management Plan http://www.dataone.org/sites/all/documents/DMP_MaunaLoa_Formatted.pdf</p> <p>12. NSF Data Management Plan Requirements http://www.nsf.gov/eng/general/dmp.jsp</p> <p>13. Simon Hodson and Sarah Jones (2013). Seven Rules of Successful Research Data Management in Universities http://www.theguardian.com/higher-education-network/blog/2013/jul/16/research-data-management-top-tips</p>	<p>documents/DMP_MaunaLoa_Formatted.pdf</p>
<p>2: Types, Formats and Stages of Data</p>	<p>1. University of Edinburgh. Research Data Management Guidance. http://www.ed.ac.uk/schools-departments/information-services/services/research-support/data-library/research-data-mgmt/data-mgmt/research-data-definition</p>	<p>1. University of Virginia Library. Steps in the Research Life Cycle, Scientific Data Consulting. http://www2.lib.virginia.edu/brown/data/lifecycle.html</p> <p>2. MIT Libraries. File Formats for Long-Term Access. http://libraries.mit.edu/data-management/</p> <p>3. UK Data Archive. Formatting your</p>

	<ol style="list-style-type: none"> 2. University of Virginia Library. Steps in the Research Life Cycle, Scientific Data Consulting. http://www2.lib.virginia.edu/brown/data/lifecycle.html 3. Ball, Alex (2012). Review of Data Management Lifecycle Models. http://opus.bath.ac.uk/28587/1/redm1rep120110ab10.pdf 4. UK Data Archive. Research Data LifeCycle. http://www.data-archive.ac.uk/create-manage/life-cycle 5. MIT Libraries. File Formats for Long-Term Access. http://libraries.mit.edu/guides/subjects/data-management/formats.html 6. UK Data Archive. Formatting your Data. http://www.data-archive.ac.uk/create-manage/format 7. Stanford University Libraries. File Formats for Long-Term Storage. https://lib.stanford.edu/data-management-services/file-formats 8. Library of Congress. Sustainability of Digital Formats. http://www.digitalpreservation.gov/formats/fdd/browse_list.shtml 9. UK Data Archive. Data Formats Table. http://data-archive.ac.uk/create-manage/format/formats-table 10. OME. Bio-formats, 11. http://www.openmicroscop 	<ol style="list-style-type: none"> Data. http://www.data-archive.ac.uk/create-manage/format 4. Stanford University Libraries. File Formats for Long-Term Storage. https://lib.stanford.edu/data-management-services/file-formats 5. OME. Bio-formats. http://www.openmicroscopy.org/site/support/bio-formats4/supported-formats.html 6. UK Data Archive: File Formats & Software. http://data-archive.ac.uk/create-manage/format/formats 7. UK Data Archive. Qualitative and Tabular Data. http://www.data-archive.ac.uk/create-manage/document/data-level?index=
--	--	---

	<p>y.org/site/support/bio-formats4/supported-formats.html</p> <p>12. UK Data Archive: File Formats & Software, http://data-archive.ac.uk/create-manage/format/formats</p> <p>13. UK Data Archive. Qualitative and Tabular Data, http://www.data-archive.ac.uk/create-manage/document/data-level?index=1</p> <p>14. ICPSR. Best Practices in Creating Metadata, http://www.icpsr.umich.edu/icpsrweb/content/deposit/guide/chapter3docs.html</p>	
<p>3: Contextual Details Needed to Make Data Meaningful to Others</p>	<p>1. Neiswender, C. 2010. Introduction to Metadata. In <i>The MMI Guides: Navigating the World of Marine Metadata</i>. http://marinemetadata.org/guides/mdataintro.</p> <p>2. Hogrefe, K. and Stocks, K. 2011. The Importance of Metadata Standards. In <i>The MMI Guides: Navigating the World of Marine Metadata</i>. http://marinemetadata.org/guides/mdatastandards/stdimportance.</p> <p>3. Getty Research Institute. Introduction to Metadata: Setting the Stage. http://www.getty.edu/research/publications/electronic_publications/intrometadata/setting.html.</p> <p>4. National Information Standards Organization (NISO). 2004. Understanding Metadata. http://www.niso.org/publicati</p>	<p>Video: What is Metadata (less than 5 minutes), http://vimeo.com/3161893</p> <p>1. Introduction to Metadata: Setting the Stage (Getty Research Institute), http://www.getty.edu/research/publications/electronic_publications/intrometadata/setting.html</p> <p>2. Documentation and Metadata (MIT Libraries), http://libraries.mit.edu/guides/subjects/data-management/metadata.html</p> <p>3. Seeing Standards: A Visualization of the (cultural heritage) Metadata Universe, http://www.dlib.indiana.edu/~jenlrile/metadatamap/</p>



[ons/press/UnderstandingMetadata.pdf](#).

5. Woodbury, D. 2010. What is Metadata.
<http://vimeo.com/3161893>.
6. Miller, Steven J. 2011. Metadata Resources: Selected Reference Documents, Web Sites, and Readings:
<https://pantherfile.uwm.edu/ml/www/resource.html>.
7. University of Illinois at Urbana-Champaign. Best Practices for Structural Metadata.
http://www.library.illinois.edu/dcc/bestpractices/chapter_1_structuralmetadata.html.
8. University of Wisconsin. 2007. Bibliographic/Multimedia Database Model Documentation. UW Core Metadata Companion. UW Madison Libraries' Local Usage Guide and Interpretations.
http://uwdcc.library.wisc.edu/documents/DC_companionv1.3.pdf.
9. University of Minnesota Libraries. File Naming Conventions.
<http://researchdata.wisc.edu/manage-your-data/file-naming-and-versioning/>.
10. Simmons GSLIS. Managing Files.
http://gslis.simmons.edu/tor/01_01_01mgfiles.php.
11. UK Data Archive. Version Control and Authenticity.
<http://www.data-archive.ac.uk/create-manage/format/versions>.

	<p>12. MIT Libraries. Documentation and Metadata. http://libraries.mit.edu/guides/subjects/data-management/metadata.html.</p> <p>13. Riley, J. and Becker, D. 2009. Seeing Standards: A Visualization of the Metadata Universe. http://www.dlib.indiana.edu/~jenlrile/metadatamap/.</p> <p>14. Digital Curation Centre. Disciplinary Metadata resource. http://www.dcc.ac.uk/resources/metadata-standards.</p> <p>15. IEEE Standards Glossary http://www.ieee.org/education_careers/education/standards/standards_glossary.html</p>	
<p>4: Data Storage, Backup and Security</p>	<p>1. UK Data Archive. Storing Your Data. http://www.data-archive.ac.uk/create-manage/storage/store-data</p> <p>2. UK Data Archive. Backing Up Data. http://data-archive.ac.uk/create-manage/storage/back-up</p> <p>3. Baylor University. Information Technology Services. Check Backup FAQs. http://www.baylor.edu/its/index.php?id=40552</p> <p>4. University of Edinburgh. Information Services. Research Data Management Guidance Data Storage and Backup. http://www.ed.ac.uk/schools-departments/information-services/services/research-support/data-library/research-</p>	<p>1. Great introduction to your UW-specific responsibilities and best practices in general: ciso.washington.edu/resources/online-training/</p> <p>2. Backing Up Data from the UK Data Archive: http://www.data-archive.ac.uk/create-manage/storage/back-up</p> <p>3. The University of Edinburgh's Guide to Data Sharing and Preservation: http://www.ed.ac.uk/schools-departments/information-services/services/research-support/data-library/research-data-mgmt/data-sharing/preservation</p> <p>4. Information Security and Privacy Laws and Regulations, from UW's Chief Information Security Officer, http://ciso.washington.edu/laws/</p>

	<p>data-mgmt/storage-backup</p> <p>5. Thomson, J.A. (2010). How to Start—and Keep—a Laboratory Notebook: Policy and Practical Guidelines. In <i>ipHandbook of Best Practices</i>. http://www.iphandbook.org/handbook/ch08/p02/</p> <p>6. Columbia University. RCR Data Acquisition and Management. http://ori.hhs.gov/education/products/columbia_wbt/rcr_data/foundation/index.html</p> <p>7. Wisconsin Alumni Research Foundation. Lab Book Guidelines. http://www.warf.org/home/for-uw-inventors/lab-book-guidelines/lab-book-guidelines.cmsx</p> <p>8. University of Edinburgh EDINA Data Library. MANTRA: Research Data Management Training. Storage and Security Unit. http://datalib.edina.ac.uk/mantra/storageandsecurity.html</p> <p>9. UMass Amherst Libraries. Preserving Your Digital Materials. http://www.library.umass.edu/services/services-for-faculty/preserving-your-digital-materials/</p>	
<p>5: Legal and Ethical Considerations for Research Data</p>	<p>1. National Institutes of Health. Protecting Personal Health Information in Research: Understanding the HIPAA Privacy Rule. http://privacyruleandresearch.nih.gov/pr_02.asp</p> <p>2. Clinical Tools, Inc. Office of Research Integrity. (2006). Guidelines for</p>	<p>Readings: UW Specific</p> <ol style="list-style-type: none"> Frequently Asked Questions – Intellectual Property from the UW Center for Commercialization Grants Information Memorandum 37 - Information on data ownership Patent, Invention, and Copyright Policy at UW <p>Readings: General</p> <ol style="list-style-type: none"> HIPPA and Privacy

	<p>Responsible Data Management in Scientific Research. http://ori.hhs.gov/education/products/clinicaltools/data.pdf pgs. 6-8</p> <p>3. Columbia University. Responsible Conduct of Research. Who Owns Research Data? http://ori.dhhs.gov/education/products/columbia_wbt/rcr_data/case/index.html#2</p> <p>4. University of Oregon Libraries. Constructing Access Permissions. http://libweb.uoregon.edu/datamanagement/sharingdata.html#three</p>	<p>2. How to Cite Datasets and Link to Publications. DCC How-to Guides</p> <p>3. Data citation initiatives and issues</p>
<p>6: Data Sharing and Reuse Policies (NECDMC); Data Sharing and Reuse Policies; Archiving and Preservation (UW)</p>	<p>1. Guttmacher, A.E., Nabel, E., and Collins, F.S. (2009). Why data-sharing policies matter. Why data-sharing policies matter http://www.pnas.org/content/106/40/16894.full</p> <p>2. Curtin, C. (2010). Data Sharing and Consent. http://www.genomeweb.com/data-sharing-and-consent</p> <p>3. Lathrop, R.H. and Burkhard, R. (2011). ISCB Public Policy Statement on Open Access to Scientific and Technical Research Literature. http://www.ploscompbiol.org/article/info%3Adoi%2F10.1371%2Fjournal.pcbi.1002014</p> <p>4. National Academies. 2010. The Value of Shared Access and Reuse of Publicly Funded Scientific Data. http://sites.nationalacademie</p>	<p>1. Why data-sharing policies matter, http://www.pnas.org/content/106/40/16894.full</p> <p>2. Responsible Conduct in Data Management, Responsible Conduct of Research (RCR) website at Northern Illinois University, http://ori.dhhs.gov/education/products/n_illinois_u/datamanagement/dotopic.html</p> <p>3. Data-Sharing Dilemmas: Allowing Pharmaceutical Company Access to Research Data, http://www.jstor.org/stable/25594876</p> <p>4. Open Data and the Social Contract of Scientific Publishing . OECD Publishing White Papers, OECD Publishing, http://www.jstor.org/stable/10.1525/bio.2010.60.5.2</p> <p>5. University of Oregon’s Managing your Data: Data Centers and Repositories http://libweb.uoregon.edu/datamanagement/repositories.html</p> <p>6. The DataVerse Network http://dlib.org/dlib/january11/crosas/01</p>

	<p>s.org/PGA/brdi/PGA_059258</p> <p>5. Vision, T. (2010). Open Data and the Social Contract of Scientific Publishing . OECD Publishing White Papers, OECD Publishing. http://www.jstor.org/stable/10.1525/bio.2010.60.5.2</p> <p>6. Birney, E., Hudson, T.J., Green, E.D., Gunter, C., Eddy, S., Rogers, J., Harris, J.R., et al. “Prepublication Data Sharing.” <i>Nature</i> 461, no. 7261 (2009): 168–170. http://www.ncbi.nlm.nih.gov/pubmed/19741685</p> <p>7. Cragin, M. H., Palmer, C.L., Carlson, J.R., and Witt, M. “Data Sharing, Small Science and Institutional Repositories.” <i>Philosophical Transactions of the Royal Society - Series A: Mathematical, Physical and Engineering Sciences</i> 368, no. 1926 (2010): 4023–4038. http://rsta.royalsocietypublishing.org/cgi/doi/10.1098/rsta.2010.0165</p> <p>8. Piwowar, H.A., M.J. Becich, H. Bilofsky, R.S. Crowley, Towards a Data Sharing Culture: Recommendations for Leadership from Academic Health Centers. <i>PLoS Med.</i> 5(9), e183 (2008), doi:10.1371/journal.pmed.0050183.</p> <p>9. Ball, A. & Duke, M. (2012). How to Cite Datasets and Link to Publications. <i>DCC How-to Guides</i>. Edinburgh: Digital Curation Centre.</p>	<p>crosas.html</p> <p>Handout: a list of data management responsibilities   for PI/researchers and repositories.</p>
--	---	--

	<p>http://www.dcc.ac.uk/resources/how-guides/cite-datasets</p> <p>10. Altman, M. & King, G. (2007). A proposed standard for the scholarly citation of quantitative data. D-Lib Magazine, 13(3/4). http://www.dlib.org/dlib/march07/altman/03altman.html</p> <p>11. Green, T. (2009). We need publishing standards for datasets and data tables. OECD Publishing White Papers, OECD Publishing. http://www.oecd.org/document/25/0,3746,en_21571361_33915056_42600857_1_1_1_1,00.html</p>	
<p>7: Repositories, Archiving and Preservation (NECDMC); Open lab with DMPTool, EZID, ORCID (UW)</p>	<ol style="list-style-type: none"> 1. Educause Review Online. Starting the Conversation: University-wide Research Data Management Policy. http://www.educause.edu/ero/article/starting-conversation-university-wide-research-data-management-policy 2. Harvard University. Office of the Vice Provost for Research. "How should Research Records be handled after the specified period of retention expires?" http://vpr.harvard.edu/faq/how-should-research-records-be-handled-after-specified-period-retention-expires 3. ICPSR. Selection and Appraisal Criteria http://www.icpsr.umich.edu/icpsrweb/content/datamanagement/lifecycle/selection.html 4. New York University. Retention of and Access to Data, 	<p><i>Open lab with DMPTool, EZID, ORCID (UW), no additional readings assigned.</i></p>

	<p>https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/retention-of-and-access-to-research-data.html</p> <ol style="list-style-type: none">5. National Institutes of Health. Grants Policy & Guidance, http://grants.nih.gov/grants/policy/policy.htm6. University of Florida. Protect Research Data, http://irb.ufl.edu/irb01/data.html7. Wellcome Trust. Policy on Data Management and Sharing. http://www.wellcome.ac.uk/About-us/Policy/Policy-and-position-statements/WTX035043.htm8. Whyte, A. & Wilson, A. (2010). "How to Appraise and Select Research Data for Curation". DCC How-to Guides. Edinburgh: Digital Curation Centre.9. http://www.dcc.ac.uk/resources/how-guides - See more at: http://www.dcc.ac.uk/resources/how-guides/appraise-select-data#sthash.TQp4SKSL.dpuf	
--	---	--