

Appendix B. Pre-Course Survey

Data Information Literacy Competencies

This survey is designed to elicit information on the knowledge and skills you need to manage, share and curate your research data. Your individual responses will be kept confidential and will be used to help plan subsequent class sessions. The aggregate results will be shared during the first class session. For each of the nine competencies, indicate the importance of each competency and how well you fulfill the competency. If desired, also complete the free text questions under each competency.

1. Data storage and security

Skills may include:

Recognizes that effective data storage is more than storing bits. Familiar with different types of data storage media, and their strengths and weaknesses. Understands security issues in storing data (unauthorized access, data loss) and takes steps to mitigate these issues.

Please indicate how important you believe it is for you to be knowledgeable in this competency by the time you graduate:

1	2	3	4	5	6	7	8	9	10
Not important									Essential

How would you describe your knowledge and skills in data storage currently?

1	2	3	4	5	6	7	8	9	10
Deficient									Outstanding

Are there any skills related to data storage and security that are missing above?

Do you have any questions or comments about data storage and security?

2. Data sharing

Skills may include:

Recognizes that data may have value beyond the original purpose, to validate research, or for use by others. Is familiar with the practices, values, norms and resources of his/her chosen field, discipline, or sub-discipline as they relate to sharing data. Understands and complies with data sharing mandates from funding sources. Knows how to cite a data set.

Please indicate how important you believe it is for you to be knowledgeable in this competency by the time you graduate:

1	2	3	4	5	6	7	8	9	10
Not important									Essential

How would you describe your knowledge and skills in data sharing currently?

1 2 3 4 5 6 7 8 9 10

Deficient

Outstanding

Are there any skills related to data sharing that are missing above?

Do you have any questions or comments about data sharing?

3. Data discovery and acquisition

Skills may include:

Locates and utilizes external sources of relevant data. Evaluates the quality of data from external sources and selects data that are appropriate for his/her purpose and intent. Familiar with disciplinary data repositories, their content and services, and how to use them effectively. Imports data from external sources and converts them when necessary, so they can be used locally.

Please indicate how important you believe it is for you to be knowledgeable in this competency by the time you graduate:

1 2 3 4 5 6 7 8 9 10

Not
important

Essential

How would you describe your knowledge and skills in data discovery and acquisition currently?

1 2 3 4 5 6 7 8 9 10

Deficient

Outstanding

Are there any skills related to data discovery and acquisition that are missing above?

Do you have any questions or comments about data discovery and acquisition?

4. Data documentation and organization

Skills may include:

Recognizes, documents, and resolves any apparent discrepancies, incompleteness, or corruption of data sets. Utilizes metadata or other sources of documentation to facilitate an understanding of potential problems with data sets. Documents data sufficiently enough to enable the reproduction of the research results and the data by others. Tracks data provenance and clearly delineates and denotes versions of a data set. Employs naming conventions or other means of organizing files and materials.

Please indicate how important you believe it is for you to be knowledgeable in this competency by the time you graduate:

1 2 3 4 5 6 7 8 9 10

Not
important

Essential

How would you describe your knowledge and skills in data documentation and organization currently?

1 2 3 4 5 6 7 8 9 10

Deficient

Outstanding

Are there any skills related to data documentation and organization that are missing above?

Do you have any questions or comments about data documentation and organization?

5. Metadata and Description

Skills may include:

Understands the rationale for generating metadata and proficiently annotates and describes data so they can be understood and used by self and others. Develops the ability to read and interpret metadata from external disciplinary sources. Understands the structure and purpose of standards (including controlled vocabularies, ontologies, etc.) in facilitating better sharing of data.

Please indicate how important you believe it is for you to be knowledgeable in this competency by the time you graduate:

1 2 3 4 5 6 7 8 9 10

Not
important

Essential

How would you describe your knowledge and skills in metadata currently?

1 2 3 4 5 6 7 8 9 10

Deficient

Outstanding

Are there any skills related to metadata and description that are missing above?

Do you have any questions or comments about metadata and description?

6. Data lifecycle and workflows

Skills may include:

Understands that data change as you progress from a “raw” stage to their eventual depictions in publications. Develops data management plans that account for how the data set will grow and change over the course of its lifecycle. Keeps track and accounts for components of the data set, particularly the relation of subsets or processed data to the original data sets. Creates standard operating procedures for data management and documentation.

Please indicate how important you believe it is for you to be knowledgeable in this competency by the time you graduate:

1	2	3	4	5	6	7	8	9	10
Not important									Essential

How would you describe your knowledge and skills in data lifecycle and workflows currently?

1	2	3	4	5	6	7	8	9	10
Deficient									Outstanding

Are there any skills related to data lifecycle and workflows that are missing above?

Do you have any questions or comments about data lifecycle and workflows?

7. Data curation and preservation

Skills may include:

Ability to distinguish which elements of a data set are likely to have future value for self and for others. Understands that curating data is a complex, often costly endeavor that is nonetheless vital to research. Recognizes that data must be prepared for their eventual curation throughout their lifecycles. Understands the basic technology, resources, and organizational components of preserving data. Articulates the potential long term value of his/her data for him/herself or others and is able to determine an appropriate preservation timeframe.

Please indicate how important you believe it is for you to be knowledgeable in this competency by the time you graduate:

1	2	3	4	5	6	7	8	9	10
Not important									Essential

How would you describe your knowledge and skills in data curation and preservation currently?

1	2	3	4	5	6	7	8	9	10
Deficient									Outstanding

Are there any skills related to data curation and preservation that are missing above?

Do you have any questions or comments about data curation and preservation?

8. Data visualization and/or representation

Skills may include:

Proficiently uses basic visualization tools of discipline. Avoids misleading or ambiguous representations when presenting data in tables, charts, diagrams, etc. Chooses the appropriate type of visualization, such as maps, graphs, animations, or videos, based on his/her understanding of the reason / purpose for visualizing or displaying data.

Please indicate how important you believe it is for you to be knowledgeable in this competency by the time you graduate:

1	2	3	4	5	6	7	8	9	10
Not important									Essential

How would you describe your knowledge and skills in data visualization and/or representation currently?

1	2	3	4	5	6	7	8	9	10
Deficient									Outstanding

Are there any skills related to data visualization and/or representation that are missing above?

Do you have any questions or comments about data visualization and/or representation?

9. Ethics, intellectual property and attribution

Skills may include:

Develops an understanding of intellectual property, privacy and confidentiality issues, and the ethos of the discipline when it comes to sharing and administering data. Acknowledges data from external sources appropriately. Avoids misleading or ambiguous representations when presenting data.

Please indicate how important you believe it is for you to be knowledgeable in this competency by the time you graduate:

1	2	3	4	5	6	7	8	9	10
Not important									Essential

How would you describe your knowledge and skills in ethics, intellectual property and attribution currently?

1	2	3	4	5	6	7	8	9	10
Deficient									Outstanding

Are there any skills related to ethics, intellectual property and attribution that are missing above?

Do you have any questions or comments about ethics, intellectual property and attribution?

Are there any skills or topics or issues that we did not cover in this survey that you have encountered or would expect to encounter in your research?