**Template & Checklist for Creating a Data Management Plan**

Please use the following template to create your Duke Kunshan Data Management Plan. Completed plans should be submitted to the [Research Support Office](research-support%40dukekunshan.edu.cn).

Adapted from: Digital Curation Centre. (2013). *Checklist for a Data Management Plan.* v.4.0. Edinburgh: DCC

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|  **Topics** | **Guidance and questions to consider:** |
| **Administrative Data** (Covers Responsibilities and Legal Requirements sections from Duke Kunshan’s DMP policy) |
| ID | A pertinent ID as determined by the funder and/or institution. |
| Funder | State research funder if relevant |
| Grant Reference Number | Enter grant reference number if applicable [POST-AWARD DMPs ONLY] |
| Project Name | If applying for funding, state the name exactly as in the grant proposal. |
| Project Description | **Questions to consider:*** What is the nature of your research project?
* What research questions are you addressing?
* For what purpose are the data being collected or created?

**Guidance:**Briefly summarize the type of study (or studies) to help others understand the purposes for which the data are being collected or created. |
| PI / Researcher | Name of Principal Investigator(s) or main researcher(s) on the project. |
| PI / Researcher ID | If available, e.g. ORCID unique identifier: <http://orcid.org/> |
| Project Data Contact | Name (if different to above), telephone and email contact details |
| Date of First Version | Date the first version of the DMP was completed |
| Date of Last Update | Date the DMP was last changed |
| Related Policies | **Questions to consider:*** Are there any existing procedures that you will base your approach on?
* Does your department/group have data management guidelines?
* Does your funder have a Research Data Management policy?
* Are there any formal standards that you will adopt?

**Guidance:**List any other relevant funder, institutional, departmental or group policies on data management, data sharing and data security. Some of the information you give in the remainder of the DMP will be determined by the content of other policies. If so, point/link to them here. |
| **Data Collection** (Covers Data Description, Existing Data, and Format sections from Duke Kunshan’s DMP policy) |
| What data will you collect or create? | **Questions to consider:*** What type, format and volume of data?
* Do your chosen formats and software enable sharing and long-term access to the data?
* Are there any existing data that you can reuse?

**Guidance:**Give a brief description of the data, including any existing data or third-party sources that will be used, in each case noting its content, type and coverage. Outline and justify your choice of format and consider the implications of data format and data volumes in terms of storage, backup and access. |
| How will the data be collected or created? | **Questions to Consider:*** What standards or methodologies will you use?
* How will you structure and name your folders and files?
* How will you handle versioning?
* What quality assurance processes will you adopt?

**Guidance:**Outline how the data will be collected/created and which community data standards (if any) will be used. Consider how the data will be organized during the project. Mention, |

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|  | for example, any naming conventions and version control. Explain how the consistency and quality of data collection will be controlled and documented. This may include processes such as calibration, repeat samples or measurements, standardized data capture or recording, data entry validation, peer review of data or representation with controlled vocabularies. |
| **Documentation and Metadata** (Covers Metadata and Data Organizationsections from Duke Kunshan’s DMP policy) |
| What documentation and metadata will accompany the data? | **Questions to consider:*** What information is needed for the data to be to be read and interpreted in the future?
* How will you capture / create this documentation and metadata?
* What metadata standards will you use and why?

**Guidance:**Describe the types of documentation that will accompany the data to help secondary users understand and reuse it. This should at least include basic details that will help people find the data, including who created or contributed to the data, its title, date of creation and under what conditions it can be accessed.Documentation may also include details on the methodology used, analytical and procedural information, definitions of variables, vocabularies, units of measurement, any assumptions made, and the format and file type of the data. Consider how you will capture this information and where it will be recorded. Wherever possible you should identify and use existing community standards. |
| **Ethics and Legal Compliance** (Covers Intellectual Property Rights, and Ethics & Privacysections from Duke Kunshan’s DMP policy) |
| How will you manage any ethical issues? | **Questions to consider:*** Have you gained consent for data preservation and sharing?
* How will you protect the identity of participants if required, e.g. by de-identification?
* How will sensitive data be handled to ensure it is stored and transferred securely?

**Guidance:**Ethical issues affect how you store data, who can see/use it, and how long it is kept. Managing ethical concerns may include: de-identification of data; referral to departmental or institutional ethics committees; and formal consent agreements. You should show that you are aware of any issues and have planned accordingly. If you are carrying out research involving human participants, you must also ensure that consent is requested to allow data to be shared and reused. |
| How will you manage copyright and Intellectual Property Rights (IPR) issues? | **Questions to consider:*** Who owns the data?
* How will the data be licensed for reuse?
* Are there any restrictions on the reuse of third-party data?
* Will data sharing be postponed or restricted, e.g. to publish or seek patents?

**Guidance:**State who will own the copyright and IPR of any data that you will collect or create, along with the license(s) for its use and reuse. For multi-partner projects, IPR ownership may be worth covering in a consortium agreement. Consider any relevant funder, institutional, departmental or group policies on copyright or IPR. Also consider permissions to reuse third-party data and any restrictions needed on data sharing. |
| **Storage and Backup** (Covers Securitysectionfrom Duke Kunshan’s DMP policy) |
| How will the data be stored and backed up during the research? | **Questions to consider:*** Do you have sufficient storage or will you need to include charges for additional services?
* How will the data be backed up?
* Who will be responsible for backup and recovery?
* How will the data be recovered in the event of an incident?

**Guidance:**State how often the data will be backed up and to which locations. How many copies are being made? Storing data on laptops, computer hard drives or external storage devices alone is very risky. The use of robust, managed storage provided by university IT teams is preferable. Similarly, it is normally better to use automatic backup services provided by IT Services than rely on manual processes. If you choose to use a third-party service, you |

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|  | should ensure that this does not conflict with any funder, institutional, departmental or group policies, for example in terms of the legal jurisdiction in which data are held or the protection of sensitive data. |
| How will you manage access and security? | **Questions to consider:*** What are the risks to data security and how will these be managed?
* How will you control access to keep the data secure?
* How will you ensure that collaborators can access your data securely?
* If creating or collecting data in the field how will you ensure its safe transfer into your main secured systems?

**Guidance:**If your data is confidential (e.g. personal data not already in the public domain, confidential information, or trade secrets), you should outline any appropriate security measures and note any formal standards with which you will comply. |
| **Selection and Preservation** (Covers Selection & Retention, and Archiving & Preservationsectionsfrom Duke Kunshan’s DMP policy) |
| Which data should be retained, shared, and/or preserved? | **Questions to consider:*** What data must be retained/destroyed for contractual, legal, or regulatory purposes?
* How will you decide what other data to keep?
* What research uses do you foresee for the data?
* How long will the data be retained and preserved?
* **Guidance:**

Consider how the data may be reused, e.g. to validate your research findings, conduct new studies, or for teaching. Decide which data to keep and for how long. This could be based on any obligations to retain certain data, the potential reuse value, what is economically viable to keep, and any additional effort required to prepare the data for data sharing and preservation. Remember to consider any additional effort required to prepare the data for sharing and preservation, such as changing file formats. |
| What is the long-term preservation plan for the dataset? | **Questions to consider:*** Where will the data be held, e.g. in which repository or archive?
* What costs if any will your selected data repository or archive charge?
* Have you included cost for time and effort to prepare the data for sharing/preservation in your budget?

**Guidance:**Consider how datasets that have long-term value will be preserved and curated beyond the lifetime of the grant. Also outline the plans for preparing and documenting data for sharing and archiving. If you do not propose to use an established repository, the data management plan should demonstrate that resources and systems will be in place to enable the data to be curated effectively beyond the lifetime of the grant. |
| **Data Sharing** (Covers Access & Sharing, and Audiencesectionsfrom Duke Kunshan’s DMP policy) |
| How will you share the data? | **Questions to consider:*** How will potential users find out about your data?
* With whom will you share the data, and under what conditions?
* Will you share data via a repository, handle requests directly, or use another mechanism?
* When will you make the data available?
* Will you pursue getting a persistent identifier for your data?

**Guidance:**Consider where, how, and to whom data with acknowledged long-term value should be made available. The methods used to share data will be dependent on a number of factors, such as the type, size, complexity and sensitivity of data. Consider how people might acknowledge the reuse of your data. |
| Are any restrictions on data sharing required? | **Questions to consider:*** What action will you take to overcome or minimize restrictions?
* For how long do you need exclusive use of the data and why?
* Will a data sharing agreement (or equivalent) be required?

**Guidance:**Outline any expected difficulties in sharing data with acknowledged long-term value, |

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|  | Include causes and possible measures to overcome difficulties. Restrictions may be due to confidentiality, lack of consent agreements, or intellectual property rights. Consider whether a non-disclosure agreement would give sufficient protection for confidential data. |
| **Responsibilities and Resources** (Covers Budget, and Quality Assurancesectionsfrom Duke Kunshan’s DMP policy) |
| Who will be responsible for data management? | **Questions to consider:*** Who on the project is responsible for implementing the DMP, and ensuring it is reviewed and revised?
* Who will be responsible for each data management activity?
* How will responsibilities be split across partner sites in collaborative research projects?
* Will data ownership and responsibilities for RDM be part of any consortium agreement or contract agreed between partners?

**Guidance:**Outline the roles and responsibilities for all activities e.g. data capture, metadata production, data quality, storage and backup, data archiving & data sharing. Consider who will be responsible for ensuring relevant policies will be respected. If possible, individuals should be named. |
| What resources will you require to deliver your plan? | **Questions to consider:*** Is additional specialist expertise (or training for existing staff) required?
* Do you require hardware or software which is additional to that provided by Duke Kunshan University?
* Will fees be requested from the data repository you will use?

**Guidance:**Carefully consider any resources needed to deliver the plan, e.g. software, hardware, technical expertise, etc. Where additional resources are needed, these should be outlined and justified. |