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Code of Practice for Research

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Table of Contents

Code of Practice for Research

Introduction

This Code of Practice is based on the Code of Practice for Research 2023 created by The UK Research Integrity Office (UKRIO). This was written to encourage good conduct in research. It is intended to help both organisations and individual researchers to conduct high quality research and to foster a healthy research culture.

The Code is organised into three sections as follows:

- Section 1
  Recommended Checklist for Researchers – a checklist summarising the key points of good practice in research that applies to all subject areas. The Checklist is based on the more detailed Standards given in section 3. Researchers should only complete the checklist after reviewing the Standards and with advice from professional services.
- Section 2
  Commitments – refers to the Commitments from The Concordat to Support Research Integrity, which define the responsibilities and values in the conduct of research by both researchers, research organisations, funders, and publishers.
- Section 3
  Standards for Organisations and Researchers – provides Standards for good practice in research that researchers and research organisations should comply with. The Standards apply to all disciplines of research.

For the purposes of this Code, "research" refers to the definition used by the 2021 Research Excellence Framework (REF 2019/01 Guidance on Submissions, January 2019, revised October 2020, Annex C): "…a process of investigation leading to new insights, effectively shared. It includes work of direct relevance to the needs of commerce, industry, culture, society, and to the public and voluntary sectors; scholarship[1]; the invention and generation of ideas, images, performances, artefacts including design, where these lead to new or substantially improved insights; and the use of existing knowledge in experimental development to produce new or substantially improved materials, devices, products and processes, including design and construction. It excludes routine testing and routine analysis of materials, components, and processes such as for the maintenance of national standards, as distinct from the development of new analytical techniques. It also excludes the development of teaching materials that do not embody original research. It includes research that is published, disseminated, or made publicly available in the form of assessable research outputs, and confidential reports".

[1] Scholarship for the REF is defined as the creation, development, and maintenance of the intellectual infrastructure of subjects and disciplines, in forms such as dictionaries, scholarly editions, catalogues and contributions to major research databases." REF 2019/01 Guidance on Submissions (Annex C, 1-3)

Scope

This Code applies to anyone within or on behalf of UCEM conducting research. “Researchers” refers to any person who conducts or supports research in any discipline. This does not apply to students on Undergraduate or Taught Post Graduate courses.

Section 1: Recommended Checklist for Researchers

This Checklist is replicated from the one produced by UKRIO, the original one can be downloaded for use. Recommended Checklist For Researchers Page 2 (ukrio.org)
If this link does not work, please refer to Appendix A for a basic version.

Section 2: Commitments

1. Maintaining the highest standards: UCEM are committed to upholding the highest standards of rigour and integrity in all aspects of research.
2. Ethical, legal, and other frameworks: UCEM are committed to ensuring that research is conducted according to appropriate ethical, legal, and professional frameworks, obligations, and standards.
3. Research culture: UCEM are committed to supporting a research environment that is underpinned by a culture of integrity and based on good governance, best practice, and support for the development of researchers.
4. Dealing with research misconduct: UCEM are committed to using transparent, timely, robust, and fair processes to deal with allegations of research misconduct when they arise.
5. Strengthening research integrity: UCEM are committed to working together to strengthen the integrity of research and to reviewing progress regularly and openly.

Section 3: Standards for UCEM and our Researchers

3.1 General Guidance on Good Practice in Research

3.1.1 UCEM and all researchers must comply with all legal and ethical requirements and other guidelines that apply to their research, such as The Concordat to Support Research Integrity and materials from regulators, learned societies, research funders, publishers and others. This includes submitting research proposals for ethics review where appropriate and abiding by the outcome of that review. They should also ensure that research projects are approved by all applicable bodies, ethical, regulatory, or otherwise.

3.1.2 When conducting or collaborating in research in other countries, UCEM and researchers should comply with the legal and ethical requirements existing in the UK and in the countries where the research is conducted.

3.1.3 Researchers based abroad who participate in UK-hosted research projects should comply with the legal and ethical requirements existing in the UK as well as those of their own country.

3.1.4 UCEM and researchers should ensure that all research projects have sufficient arrangements for insurance and indemnity before the research begins.

3.1.5 UCEM will:

a) ensure that good practice in research forms an integral part of our research strategy and accompanying policies;

b) establish clear policies and procedures that cover the Commitments of good practice in research and offer detailed guidance.

c) ensure that these policies and procedures complement and are in accordance with existing organisational policies, such as those for health and safety, reporting channels for raising concerns at work, management of finances or of intellectual property, wellbeing and welfare, and equality, equity, diversity, and inclusivity;

d) make sure that researchers are aware of these policies and procedures and that all research carried out under our auspices complies with them;

e) provide training, resources, and support to our researchers to ensure that they are aware of these policies and procedures and are able to comply;

f) consider the research culture and environment and its incentives that may influence positively or negatively on good practice in research;

g) establish clear policies and procedures on Trusted Research that encompass National Protective Security Authority (NPSA) guidelines while maintaining open research, where applicable;

h) encourage our researchers to consider good practice in research as a routine part of their work; and

i) have a systematic process of regularly reviewing risk assessment to monitor these measures for suitability, effectiveness, and continuous improvement.

3.1.6 Researchers should:

a) recognise their responsibility to conduct research of high ethical standards and follow UCEM's Research Ethics Policy;

b) be aware of UCEM's policies and procedures on good practice in research;

c) make sure that their research complies with these policies and procedures, and seek guidance from the Research Office when necessary;

d) work with UCEM to ensure that they have the necessary training, resources, and support to carry out their research;

e) suggest to UCEM how guidance on good practice in research might be developed or revised; and

f) comply with open research practices to ensure trustworthy research and minimise risks by adhering to Trusted Research guidelines.

3.2 Leadership, Supervision, Training and Development

3.2.1 Both UCEM and our researchers should promote and maintain an environment which fosters and supports research of high ethical standards, mutual co-operation, professionalism, and the open and honest exchange of ideas. Fostering a culture where good conduct in research is promoted while inappropriate conduct is identified and addressed.

3.2.2 UCEM will provide direction and supervision of research and researchers, setting out clear lines of accountability for the organisation and management of research. UCEM will support supervisors and researchers in meeting the legal and ethical requirements of conducting research. UCEM will offer and encourage training and support in management and leadership to those responsible for the supervision and development of other researchers.

3.2.3 UCEM will provide training for all researchers to enable them to carry out their duties and develop their knowledge and skills throughout their career by:

a) identifying unmet needs for training and development;

b) providing periodic refresher courses or retraining;

c) providing qualified mentors for early-career researchers;

d) providing educational opportunities for more-established researchers;

e) providing ongoing training in responsible research design, conduct, and dissemination; and

f) where relevant, this training should include open research practices, peer review, research ethics, data and image integrity, and transparency of programming codes and scripts.

3.2.4 UCEM will support the principles of The Concordat to Support the Career Development of Researchers.

3.2.5 UCEM will provide support for student researchers. Ensuring that student researchers understand which standards, policies, and procedures they are expected to comply with and the sources of help and support available to them.

3.2.6 Researchers involved in the supervision and development of other researchers should be aware of their responsibilities and ensure that they have the necessary training, time, and resources to carry out that role, and request support if required.

3.2.7 Researchers should undergo training to carry out their duties and to develop their knowledge and skills throughout their career, repeating training where necessary to ensure that skills are kept up to date.

3.3 Research Design

3.3.1 When designing research projects, UCEM and researchers should ensure that:

a) the proposed research addresses pertinent question(s) relevant to the community or beneficiaries and is designed either to add to existing knowledge about the subject in question or to develop methods for research into it; context dependent concepts like repeatability, reproducibility, replicability, reliability, trustworthiness, credibility, authenticity, and meta-research are of equal importance to establish quality;

b) the design is justified and appropriate for the question(s) being asked, and addresses the most important potential sources of bias and criticism;

c) the design and conduct of the study, including how the research outputs will be made, gathered, analysed, stored, and managed, are set out in detail in a prespecified research plan or where possible a protocol submitted to a registry. Open research practices are encouraged.

d) all necessary skills and experience will be available, in the proposed research team or through collaboration with specialists in relevant fields;

e) sufficient resources will be available and that these resources meet all relevant standards;

f) agreements are in place to give appropriate acknowledgement for the intellectual and/or technical contributions to the research output; and

g) any of the above issues are resolved as far as possible before the start of the research.

3.3.2 Researchers should conduct a risk assessment of the planned study to determine:

a) whether there are any ethical issues and complete an ethics review;

b) the potential for risks to UCEM, the research, or the health, safety, wellbeing and mental health of researchers and research participants, the public, the environment, national security; and

c) what legal requirements govern the research. Risk assessments should be a continuous process throughout the lifecycle of the research project to mitigate risks and communicating them to appropriate staff in UCEM.

3.3.3 Where the design of a study has been approved by an external research ethics committee (REC) or by regulatory or peer review, researchers should ensure that any later design changes are appropriately reviewed to ensure that they will not compromise the integrity or ethics of the research, or any terms of consent previously given.

3.3.4 UCEM will maintain processes to identify and address risks that proposed research or its results may be misused for purposes that are illegal or harmful.

3.3.5 Researchers should aim to identify risks that the proposed research might produce results that could be misused for purposes that are illegal or harmful (including Dual Use Research of Concern). Researchers should report any risks to, and seek guidance from, the Research Office.

3.3.6 Researchers should be prepared to make the original research designs available to peer reviewers and journal editors when submitting research reports for publication.

3.4 Collaborative Working

3.4.1 UCEM and Researchers should follow the Framework to Enhance Research Integrity in Research Collaborations, paying particular attention to projects that include participants from different countries or where work will be carried out in another country, due to the additional legal and ethical requirements and other guidelines that may apply. Refer to the Cape Town Statement on how to foster equitable research partnerships.

3.4.2 When conducting or collaborating in research in other countries, researchers based in the UK should comply with the legal and ethical requirements both in the UK and in the countries where the research is conducted. They should have clarity over who has competency in overseeing research outside the UK. It may not be necessary to obtain ethics approval if the lead partner already has approval from a Research Ethics Committee in another country whose review process is similar to the standards expected in the UK.

3.4.3 Similarly, organisations and researchers based in other countries who participate in UK-hosted research projects should comply with the legal and ethical requirements in the UK as well as those of their own country.

3.4.4 UCEM will work with partner organisations to ensure they agree and comply with common standards and procedures for the conduct of collaborative research, including the resolution of any issues or problems and the investigation of any allegations of misconduct in research.

3.4.5 Researchers involved in collaborations should be aware of the standards and procedures for research followed by any collaborating organisations. They should also be aware of any contractual requirements involving partner organisations, seeking guidance and help where necessary and reporting any concerns or irregularities to the Research Office as soon as they become aware of them.

3.4.6 Researchers should try to anticipate any issues or barriers that might arise because of working collaboratively and agree jointly in advance how they might be addressed, communicating any decisions to all members of the research team. Agreement should be sought on the specific roles of the researchers involved in the project and on issues relating to intellectual property, Trusted Research, open access, publication, and the attribution of authorship and contributorship, recognising that, subject to legal and ethical requirements, roles and contributions may change during the research.

3.5 Competing Interests

The below section should be read in conjunction with UCEM's Conflicts of Interest Policy (link once policy updated)

3.5.1 UCEM and researchers must recognise that competing interests (i.e., personal, or organisational considerations, including but not limited to rivalry and financial matters) can inappropriately affect research. Competing interests, also known as conflicts of interest (COIs) must be identified, declared, and addressed to avoid poor practice in research or potential misconduct.

3.5.2 When addressing a competing interest, the UCEM will determine whether it is of a type and severity that risks fatally compromising the validity or integrity of the research, in which case the decision will be not proceed with the research, or whether it can be adequately addressed through declarations and/or safeguards relating to the conduct and reporting of the research.

3.5.3 Researchers should comply with their organisation's policy for addressing competing interests, as well as any external requirements relating to competing interests, such as those of funding bodies. This should include declaring any potential or actual competing interests relating to their research to their manager or other appropriate person as identified by their organisation, any ethics committee which reviews their research, and when reporting their findings at meetings or in publications. Competing interests should be disclosed as soon as researchers become aware of them.

3.5.4 Researchers should agree to abide by any direction given by their organisation or any relevant ethics committee in relation to a competing interest.

3.6 Research involving Human Participants or Personal Data

3.6.1 UCEM and Researchers should make sure that research involving human participants or personal data complies with all legal and ethical requirements and other applicable guidelines such as:

- The UK General Data Protection Regulations (UK GDPR) or any subsequent legislations as part of the Information Commissioner's Office's (ICO's) Guide to Data Protection;
- The National Health Service (NHS) Health Research Authority's (HRA's) operational guidance on the implementation of GDPR for health and social care research;
- The Declaration of Helsinki specifying the ethical principles of involving human participation;
- The UK Policy Framework for Health and Social Care Research;
- And appropriate care should be taken when research projects involve vulnerable groups, such as older participants, children or those with mental illness, and covert studies or other forms of research which do not involve full disclosure to participants. The dignity, rights, safety, and wellbeing of participants must be the primary consideration in any research study. Research should be begun and continued only if the anticipated benefits justify the risks involved.

3.6.2 Researchers should utilise UCEM systems to ensure the confidentiality and security of personal data relating to human participants involved in research.

3.6.3 Organisations and researchers working with, for, or under the auspices of, any of the UK Departments of Health and/or the NHS must adhere to all relevant guidelines, such as the Health Research Authority (HTA) guidance.

3.6.4 UCEM and Researchers should consider the challenges when working with participants, communities and stakeholders and ensure systems are in place for effective communication, monitoring of compliance with all legal and ethical frameworks throughout the research process, including adherence to Trusted Research guidelines.

3.6.5 Researchers should use UCEM's ethics application process and accompanying consent forms to ensure that appropriate procedures for obtaining informed consent by are established and observed in projects involving human participants, having regard to the needs and capacity of the participants. The same process should also be used to ensure permission and compliance with any relevant third parties such as regulatory authorities and frameworks.

3.6.6 Researchers should submit research projects involving human participants, or personal data for review by all relevant ethics committees and abide by the outcome of those reviews. They should also ensure that such research projects have been approved by all applicable bodies, ethical, regulatory, or otherwise.

3.6.7 Researchers on projects involving human participants must satisfy themselves that participants are enabled, by the provision of adequate accurate information in an appropriate form through suitable procedures, to give informed consent, having regard to the needs and capacities of vulnerable groups, such as older participants, children, those with mental illness or those in prison all of whom may require gatekeeper permissions. If a participant or gatekeeper cannot give informed consent, the

participant should not be involved in the research. Guidance on ethics and gatekeepers can be found in the following:

- UKRIO – Gatekeeper permission;
- Economic and Social Research Council (ESRC) – Research with children and young people;
- ESRC – Research with potentially vulnerable people;
- ESRC – Internet mediated research;
- UKRIO – Good practice in research: Internet-mediated research and additional resources on UKRIO's website here.

3.6.8 Researchers should ensure that co-production, collaboration or participant and stakeholder involvement in research meets and adheres to appropriate methodology and ethical frameworks, with considerations for responsibility, accountability, transparency, respect, expectations, management and sharing or use of the research. See the following for guidance:

- The ESRC Framework on Research Ethics;
- N8 Research Partnership and ESRC report – Knowledge that matters: Realising the Potential of Co-Production;
- The National Institute for Health and Care Research (NIHR) Guidance on co-producing a research project.
- Participatory Research Methods – Choice Points in the Research Process.

3.6.9 Researchers should inform research participants that data gathered during research may be disseminated not only in a report but also in different forms for academic or other subsequent publications and meetings, albeit not in an identifiable form, unless previously agreed to, and subject to limitations imposed by legislation or any applicable bodies, ethical, regulatory, or otherwise.

3.6.10 Researchers who are members of a regulated profession must ensure that research involving human participants or personal data complies with any standards set by the body regulating their profession.

3.6.11 If researchers consider that human participants in research are subject to unreasonable risk or harm, they must suspend the activity that is deemed harmful and then report their concerns to the Research Office, and, where required, to the appropriate regulatory authority. Similarly, concerns relating to the improper use or storage of personal data, should be reported.

3.7 Health, Safety and Environmental Protection

3.7.1 UCEM and Researchers should ensure that all research carried out under their auspices, or for which they are responsible, fulfils all requirements of health and safety legislation and good practice. Certain types of research, for example social research in a conflict zone, can present issues of health and safety. They should ensure that all research which involves potentially hazardous or harmful material, or which might cause harm to the environment, complies with all legal requirements and other applicable guidelines for acquisition, use, storage, and disposal.

3.7.2 UCEM will maintain systems to ensure that such research is reviewed in accordance with UCEM's policy on health and safety.

3.7.3 Researchers should submit such research for all forms of appropriate review and abide by the outcome of that review.

3.8 Copyright and Intellectual Property

3.8.1 UCEM and Researchers should ensure that any contracts or agreements relating to research are appropriately checked and signed by UCEM and are in compliance with UCEM's Intellectual Property Policy (need link)

. Research contracts should include provision for ownership and use of intellectual property. Intellectual property includes but is not limited to research data and other findings of research, ideas, information, designs, patents, trademarks, processes, software, hardware, apparatus and equipment, substances and materials, and artistic and literary works, including academic and scientific publications.

3.8.2 UCEM and Researchers should not give prior disclosure of research or the findings of research when this might invalidate any commercial property rights that could result. Researchers should recognise, however, that the presumption should be that any intellectual property discovered or developed using public or charitable funds should be disseminated to have a beneficial effect on society at large. That presumption may be overridden where there is an express restriction placed on any such dissemination. Any delay in publication and dissemination pending protection of intellectual property should be reasonable and kept to a minimum.

3.8.3 UCEM and our researchers must comply with any additional conditions relating to intellectual property required by funding bodies.

3.8.4 UCEM will clearly state any exceptions when the standard guidance might not apply; for example, waiving copyright of research theses, dissertations, and articles prepared for publication in journals or books.

3.8.5 UCEM will, where necessary, justify ownership and account for policies that introduce restrictions and barriers to open research.

3.8.6 Researchers should try to anticipate any issues relating to intellectual property at the project planning stage or at the earliest opportunity before dissemination and agree jointly in advance how they might be addressed, communicating any decisions to all members of the research team.

3.9.7 Researchers intending to copyright research material or output must comply with relevant legislation and guidelines (see government guidelines on copyright), and ensure that these do not conflict with open access terms or other conditions of funding agreements.

3.9 Finance

3.9.1 UCEM and Researchers should ensure that the terms and conditions of any grant or contract related to the research are adhered to.

3.9.2 UCEM will issue guidelines regarding the legal and ethical purchasing or procurement of materials, equipment, or other resources for research and the hiring of staff for research projects. These guidelines should include statements on the ownership of resources, storage, and maintenance (if applicable), and the rights of researchers to

use them. Organisations should also set up procedures for the monitoring and audit of finances relating to research projects.

3.9.3 Researchers should comply with organisational guidelines regarding the use and management of finances relating to research projects. They should cooperate with any monitoring and audit of finances relating to research projects and report any concerns or irregularities to the appropriate person(s) as soon as they become aware of them.

3.10 Generation, Collection and Retention of Data, Information or Material

3.10.1 UCEM and Researchers should comply with all legal, ethical, funding body and organisational requirements for the generation, collection, use, storage, and security of data, especially personal data, where particular attention should be paid to the requirements of data protection legislation provided in the GDPR (or subsequent legislation) by the Information Commissioner's Office (ICO). They should also maintain confidentiality where undertakings have been made to third parties or to protect intellectual property rights. Researchers should ensure that research data relating to publications is available to other researchers, subject to any existing agreements on confidentiality.

3.10.2 Data should be kept intact for any legally specified period and otherwise for ten years at least, subject to any legal, ethical, or other requirements, from the end of the project. It should be kept in a form that would enable retrieval by a third party, subject to limitations imposed by legislation and general principles of confidentiality. Depositing in UCEM's Repository is expected so as to ensure reproducibility and efficient research on research.

3.10.3 If research data (and/or materials) is to be deleted or destroyed, either because its agreed period of retention has expired or for legal or ethical reasons, it should be done so in accordance with all legal, ethical, research funder and organisational requirements and with particular concern for confidentiality and security.

3.10.4 UCEM will have in place procedures, resources (including physical space), and administrative support to assist researchers in the accurate and efficient collection of data and metadata, and its storage in a secure and accessible form. Guidelines are in place to fulfil open data requirements and expectations for transparency and accountability. See Data Management Policy (need link)

3.10.5 Any subsequent policies created by UCEM relating to AI should be followed and UCEM commit to continuing to monitor and develop policies in this area. Such policies should consider the challenges posed by artificial intelligence (AI)-generated content for intellectual property rights and other research integrity concerns and have clear policy and guidance in place to effectively regulate technology that have potential for harm across all disciplines and wider society. The policy should define who is responsible and accountable for the use of generative AI in research conducted under the auspices of the organisation.

3.10.6 Researchers should consider how data will be gathered, analysed, and managed, and how and in what form relevant data will be made available to others under open research practices, at an early stage of the design of the project.

3.10.7 Researchers should collect data accurately, efficiently, and according to the agreed design of the research project and ensure that it is stored in a secure and accessible form. Processing of personal data must comply with GDPR guidelines.

3.11 Monitoring and Audit

3.11.1 UCEM and Researchers should ensure that research projects comply with any monitoring and audit requirements. UCEM will make sure that researchers charged with carrying out such monitoring and audits have sufficient training, resources, and support to fulfil the requirements of the role.

3.11.2 UCEM will monitor and audit research projects to ensure that they are being carried out in accordance with good practice, legal, and ethical requirements, and any other guidelines, adopting a risk-based and proportional approach.

3.11.3 Researchers should consider any requirements for monitoring and audit at an early stage in the design of a project.

3.11.4 Researchers should cooperate with the monitoring and audit of their research projects by applicable bodies and undertake such when required. They should cooperate with any outcomes of the monitoring and audit of their research projects. If they become aware of a need for monitoring and audit where it is not already scheduled, they should report that need to the appropriate person(s).

3.12 Peer Review

UCEM does not currently mandate Peer Review, however it is encouraged. Where a Peer Review is undertaken the following should be followed.

3.12.1 UCEM and Researchers should be aware that peer review is an important part of good practice in the publication and dissemination of research and research findings, the assessment of applications for research grants, and in the ethics review of research projects. Training and support for peer review is available through the Research Office.

3.12.2 UCEM will encourage and enable researchers to act as peer reviewers for meetings, journals, and other publications, grant applications and ethics review of research proposals, and support those who do so through training and/or mentoring schemes. UCEM recognise the obligations of peer reviewers to be thorough and objective in their work and to maintain confidentiality, and will not put pressure, directly or indirectly, on peer reviewers to breach these obligations.

3.12.3 Researchers who carry out peer review should do so to the highest standards of thoroughness and objectivity. They should follow the guidelines for peer review of any organisation for which they carry out such work as well as the Committee on Publication Ethics (COPE) guidance for publication ethics.

3.12.4 Researchers who agree to peer review must be aware of and avoid both status bias (also known as the Matthew effect – see Box 1) and implicit bias (commonly known as unconscious bias – see Box 2) throughout the review process. To facilitate this, they could encourage the relevant body requesting the peer review to anonymise reviewers to author names and affiliations.

Originally developed by Merton (1968) to describe the situation in which individuals who begin in a position of relative advantage accrue greater incremental gains over individuals who begin at a position of relative disadvantage. For example, a reviewer may give a higher score to a grant application or accept a manuscript for publication if the author is a well-known and established researcher with excellent track record. However, if the same grant or manuscript is submitted by a relatively unknown researcher (e.g., someone at the early-mid career stage), the reviewer may give a lower score on the grant or reject the manuscript for publication. The Matthew Effect (Status Bias)	*Various biases developing gradually in the subconscious because of beliefs, assumptions and attitudes (which may or may not be ethnocentric) that reinforce stereotypes and assigns judgements on others. Examples include but are not limited to:* *• Name bias* *• Confirmation bias* *• Conformity bias* *• Affinity bias* *• Gender bias* *• Ageism* *• Implicit Bias (Unconscious Bias)*
Box 1	*Box 2.*

3.12.5 Researchers should maintain strict confidentiality and not retain or copy any material under review without the express written permission of the organisation which requested the review. Maintaining confidentiality includes not sharing any material with generative AI tools. They should not make use of research designs, data, or research findings from a grant application, manuscript, or other material under review without the express permission of the author(s) and should not allow others to do so. Researchers acting as peer reviewers must declare any relevant competing interests and decline to peer review if they have significant conflicts.

3.12.6 While carrying out peer review, researchers may become aware of possible misconduct or have ethical concerns about the design or conduct of the research. In such cases they should inform, in confidence, an appropriate representative of the organisation which requested the review, such as the editor of the relevant journal, publisher staff, or the chair of the relevant grants or ethics committee. Investigation of allegations of research misconduct is the responsibility of the publisher, funder, organisation, or other relevant bodies.

3.12.7 Researchers who submit material containing research data or information derived from machine learning algorithms and non-sensitive data should ensure all programming scripts (e.g., using Python, R or other scripting language) and data are openly accessible to reviewers.

3.13 Dissemination of Research Outputs

Research outputs are of a wide variety. While not exhaustive, this document considers research outputs as listed in the REF 2021 as follows:

“217. In addition to printed academic work, research outputs may include, but are not limited to: new materials, devices, images, artefacts, products, and buildings; confidential or technical reports; intellectual property, whether in patents or other forms; performances, exhibits or events; and work published in non-print media.”
REF 2019/01 Guidance on Submissions (paragraph 217)

3.13.1 Researchers should refer to the UCEM policy on Authorship and Publication. (link needed)

All research outputs produced by UCEM researchers must be deposited in UCEM's repository. This should be done within three months of the date of acceptance. The Research Office can provide up to date guidance notes and training for using the Repository.

3.14 Open Access to Research Outputs, Data, Findings or Outcomes

3.14.1 UCEM and Researchers should adhere to the recommendations of the Budapest Open Access Initiative (BOAI) when considering whether open access is granted immediately for research theses and dissertations submitted to a repository that promotes interoperability and facilitates efficient dissemination, or to embargo for a defined period with restricted access to abstract and metadata.

3.14.2 UCEM and Researchers should abide by the Concordat on Open Research Data and follow guidance on good practice in open research and regulatory frameworks according to disciplinary norms.

3.15.3 UCEM will utilise resources available for open access and ensure guidelines and policies are in place for accountability and transparency of research material, data, metadata, and outputs when made available for open access.

3.14.4 Researchers should consider whether open access is granted immediately to support dissemination, reproducibility, and integrity of research outputs, findings, data, and other research material or to embargo full access for a limited period.

3.14.5 Researchers must specify terms that permit universal re-use, redistribution, and interoperability of research data and outputs disseminated under an open licence (e.g., Creative Commons) of the appropriate type and level. The data and outputs must be available in full in a format that is convenient and modifiable.

3.15 Funding and Collaboration in Research and Enterprise

3.15.1 UCEM and Researchers collaborating with commercial or other non-research organisations must have a collaboration agreement signed before any work commences that stipulates key roles, responsibilities, obligations, and rights of all parties, and how the research will be jointly managed. The agreement should clarify ownership of intellectual property, authorship, and specify exemptions to open licensing terms for the use of research material and legally protected databases. The agreement must reflect any funding terms and conditions including conditions for funding transfer between sponsors and collaborators or commercial partners.

3.15.2 Before agreeing to any collaboration with multinational organisations or researchers outside the UK, researchers (with the help of the Research Office) must undertake a risk assessment and due diligence to ensure national security and compliance with legal requirements and financial agreements in the UK and all relevant countries. Ethical approvals (if applicable) must be in place from all relevant countries and research protocol(s) agreed upon by all parties.

3.15.3 UCEM and Researchers must conduct a risk assessment for research that is subject to export control restrictions, acquiring an export licence if needed, and manage the research under appropriate Trusted Research guidelines:

- The government and academia Research Collaboration Advice Team (RCAT) provides advice on national security risks linked to international research.

- The Higher Education Export Control Association (HEECA) provides guidance and training on export control compliance for universities.
- Universities UK (UUK), the Centre for the Protection of National Infrastructure (CPNI – now known as the NPSA) and UK Research and Innovation (UKRI) have published guidelines on Managing risks in international research and innovation.

3.15.4 UCEM will ensure that agreements are in place that specify relevant terms and conditions for engaging any research partners, including commercial and other non-research organisations, in research funded by a major grant award to the organisation or other funding agreement held by the organisation.

3.15.5 UCEM will exercise due diligence when accepting funds from businesses and multinational co-operations, including foreign government associates. Funding should only be accepted from funders with a good track record of awarding research grants and with terms and conditions of funding that do not carry risks to security, finance, or reputation, and are compliant with legal and ethical regulations and requirements.

3.15.4 Researchers must ensure that any relevant ethical approvals or permissions are in place before starting contract research or research with high economic impact. Such research should be conducted in accordance with relevant Trusted Research guidance and appropriate sector-specific Guidelines:

- The National Directive on Commercial Contract Research Studies guide from the NHS HRA and NIHR for health and life sciences.
- Business R&D in the arts, humanities, and social sciences policy briefing from the Creative Industries Policy & Evidence Centre and Nesta.

3.16 Misconduct in Research

3.16.1 Researchers should refer to the UCEM Research Misconduct policy (need link).

3.17 Research Culture

3.17.1 UCEM and Researchers should promote uptake of good practice to improve research culture and encourage attendance to internal and external research integrity training courses, and these should be clearly and efficiently communicated to staff they are responsible for (inclusive of research assistants and technicians) and students across UCEM.

3.17.2 UCEM and Researchers should contribute to creating an environment that encourages and facilitates equality, equity, diversity, and inclusivity (EEDI) at all levels of the organisation. This includes but is not limited to provisions for individuals with protected characteristics such as:

a) visible and invisible disabilities;

b) neurodiversity;

c) religion, faith and no faith;

d) minority groups (e.g., ethnicity, gender); and

e) caring duties

3.17.3 UCEM and Research supervisors should incorporate awareness, understanding, recognition, and management of stress, depression, anxiety, or other mental health conditions of researchers into their pastoral support and attend any routine training programmes provided by UCEM.

3.17.4 Research supervisors (PGR supervisors and line managers of research staff) should promote a positive workplace culture and:

a) be encouraging to and motivate other researchers;

b) encourage good behaviour and attitude;

c) accommodate flexible working where possible;

d) maintain work-life balance;

e) support provisions for sick leave, parental leave and caring duties;

f) avoid presenteeism; and

g) avoid unrealistic demands that increase workload but decrease productivity. Time pressure and workload issues have a significant impact on good research culture and can open the door to questionable research practices that may lead to research misconduct.

3.17.5 Researchers should regularly refresh themselves with policies and practices relating to research integrity and ethics to promote trust in research.

3.18 Research Assessment

3.18.1 Researchers should consider the principles, commitments and framework set out in the Agreement on Reforming Research Assessment by the Coalition for Advancing Research Assessment (CoARA) when assessing research outputs, practices and activities. Judge research based on quality, reliability, reproducibility and/or authenticity rather than on the popularity of the authors, their affiliation, the journal, or other output mechanisms:

a) Recognise the diversity of contributions to, and careers in, research in accordance with the needs and nature of the research.

b) Base research assessment primarily on qualitative evaluation for which peer review is central, supported by responsible use of quantitative indicators.

c) Abandon inappropriate uses in research assessment of journal- and publication-based metrics, in particular, inappropriate uses of Journal Impact Factor (JIF) and h-index, noting UKIRO's declaration to the DORA agreement

d) Avoid the use of rankings of research organisations in research assessment.

e) Allocate resources to reforming research assessment as is needed to achieve the changes organisations are committed to.

f) Review and develop research assessment criteria, tools, and processes.

g) Raise awareness of research assessment reform and provide transparent communication, guidance, and training on assessment criteria and processes as well as their use.

h) Exchange practices and experiences to enable mutual learning within and beyond the Coalition.

i) Communicate progress made on adherence to the Principles and implementation of the Commitments.

j) Evaluate practices, criteria and tools based on solid evidence and the state-of-the-art in research on research and make data openly available for evidence gathering and research.

Appendix A

	Part I – Before conducting your research, and bearing in mind that, subject to legal and ethical requirements, roles and contributions may change during the research:	Yes/ No
1	Does your proposed research address pertinent question(s) and is it designed either to add to existing knowledge about the subject in question or to develop methods for research into it? – inclusive of: • repeatability; • reproducibility; • replicability; • trustworthiness; • credibility; • authenticity; and • meta-research	
2	Is your research design and methodology appropriate for your research question(s)?	
3	Will you have access to all the necessary skills, training, and resources to do your research?	
4	Have you done a risk assessment and due diligence to check for and mitigate: a) potential risks to • your organisation; • the environment; • the research; or • the health, safety, and well-being of researchers and research participants b) potential risks to research and innovation	
5	Will your research comply with Trusted Research guidelines to protect yourself and the research from potential exploitation, misuse, and theft?	
6	Have you signed all contracts (including collaboration agreements if relevant) before commencing the research and will your research comply with contractual and financial guidelines relating to the project?	
7	Have you agreed the intellectual property?	
8	Has your research had any necessary ethics review, especially if it involves: • human participants; • human material; • personal data; • animals (inclusive of non-ASPA, i.e., animals that do not fall under the Animal Scientific Procedures Act 1986); • animal materials; • microbiomes; • environmentally hazardous agents; or • dual use research of concern (DURC)?	
9	Will your research comply with all legal (including health and safety) and ethical requirements and other applicable guidelines, including those from other organisations and/or countries, if relevant?	
10	Will your research comply with good practice requirements and where relevant, follow open research practices?	

11	Have you agreed how you will disseminate outputs (inclusive of journal articles, conferences, book chapters, pre-prints, registered reports, abstracts, etc.), authorship and contributorship?	
12	Have you considered how your research will comply with any monitoring, audit, and data management requirements?	
13	Have you agreed on the roles of all the researchers and responsibilities for management and supervision?	
14	Have all competing interests relating to your research been identified, declared, and addressed?	
15	Where applicable (e.g., clinical trials or systematic reviews), has your research been registered with the appropriate body?	
16	Are you aware of the research misconduct policies of all relevant organisations and know which procedure to investigate research misconduct will take precedence?	

Part II – When conducting your research:		Yes/ No
1	Are you following the agreed design and methods for the project?	
2	Have any changes to the agreed design, methods, and hypotheses been reviewed and approved, if applicable?	
3	Are you following best practices to collect, create, produce, compile, store, and manage your research outputs?	
4	Are agreed roles and responsibilities for management and supervision being fulfilled?	
5	Is your research complying with any monitoring, audit, and appropriate data storage requirements?	
6	Have you reviewed authorship and contributorship agreements at this stage of the project?	

Part III – When finishing your research:		Yes/ No
1	Does your research comply with all legal, ethical, and contractual requirements?	
2	Are agreements relating to intellectual property, publication, authorship, contributorship, international collaboration, and innovation being complied with?	

3	Will all contributions to the research be acknowledged?	
4	Will your research and all its findings (inclusive of null results) be reported accurately, honestly, completely, and within a reasonable time frame?	
5	Will the research outputs be retained in a secure and accessible form and for the required duration?	
6	Will the research outputs be retained in a secure and accessible form and for the required duration?	