

# Policy for Open Science at NTNU

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Legal reference Act/Regulations	
Reference internal documents	Guidelines for the Policy for Open Science

## 1. Purpose of the document

The document describes goals, requirements, guidelines, and principles for NTNU's Policy for Open Science. Details related to implementation of these are described in the document *Guidelines for the Policy for Open Science*.

## 2. Scope

Open science refers to a set of principles for greater openness and transparency in the research process, as well as open access to the results of research and teaching activity.

The Policy for Open Science applies to all activities at NTNU, including research, artistic research, teaching and dissemination of scientific and artistic work, as well as to all employees who use the University's resources to carry out their work.

The policy applies to all results of research, teaching and dissemination activities conducted using NTNU's resources, including:

- Academic publications
- Research data and databases
- Computer programs and associated documentation and source code
- Teaching methods and materials
- Results of artistic research
- Image and video material
- Digital learning resources
- Open peer reviews

Work performed outside the employee's position at NTNU is not covered by the policy, even if the University's systems for publishing and archival of research results may also be used for such production.

### 3. Definitions

<b>Term</b>	<b>Definition</b>
Academic publication	Published research results that have undergone peer review.
Data	Any physical representation of details, knowledge, opinions, etc., as opposed to the content, which is called information. The representation may consist of text, of sound, light, or electrical signals, in sequences and combinations of numbers, patterns or letters, etc.
Data management	Procedure for collection, intermediate storage, conversion, analysis, archival and sharing of research data.
Employee	A person who has entered into a contract of employment with NTNU.
Learning resources	All forms of material used for teaching purposes. Examples include academic literature, musical works, works of art, video, software, and presentations, as well as their performance and dissemination.
Licence for use	Terms and conditions for use and reuse of research results, research data and learning resources.
Moral rights	The right of the creator/author to be named in the manner required by proper usage, as well as the author's right to object to the work being altered or made available in a way or in a context that is prejudicial to his/her literary, academic or artistic reputation or individuality, or to the reputation or individuality of the work.
Open science	Principles for greater openness and transparency in the research process, as well as open access to the results of research and teaching activity.
Research data	Research data consist of the registration/recording/reporting of numerical scores, textual records, images and sounds that are generated by or arise during research projects.
Research results	Publication, data sets, method descriptions, source code or other output from a research process.
Student	A person who has paid semester tuition fees and is registered as a student at NTNU. A recipient of tuition who is covered by the Policy for Open Science.
Visiting scholar	A person who by agreement conducts research and/or teaching at NTNU, without being an employee or an independent contractor.

## 4. Goals for open science at NTNU

NTNU aims to contribute to “Knowledge for a Better World”. To achieve this, the world must gain the opportunity to acquire and apply knowledge. Results of research and teaching activity at NTNU must be made available to the public. The process of providing public access must take place within the legal and ethical frameworks for research and teaching, without affecting the scope for carrying out research or teaching in practice.

The concept of open science rests on principles that underpin all the University’s activities: collaboration, transparency, verifiability, and accessibility. In practice, this means providing access to research results and learning resources, openness about methods and underlying data, and dissemination of disciplines to students and the public.

These principles will help NTNU fulfil its social mission of contributing knowledge towards a better world in line with good scientific practice. Open science adheres to the scientific ideals of knowledge as a public good, independence of research, universalism, and systematic critical appraisal of sources.

## 5. General guidelines

Open science at NTNU must take place within the frameworks of legislation, regulations, public policy, and the University’s governing documents. NTNU’s most important external funders of research places also impose conditions regarding open access in line with principles for open science. The most important guidelines are provided through:

- NTNU’s strategy: Knowledge for a better world, [core tasks](#):  
“Our research and our research data are published with open access.”
- The Ministry of Education’s policy for [open access publishing](#):  
“The government’s goal is that all publicly funded Norwegian research articles should be made openly available.”
- The national strategy on [open access to research data](#):  
“Publicly funded research must be for the benefit of all. Therefore, it is important that the data behind the research results are also available to as many people as possible: to other researchers, but also to public administration and the business community.”
- The Research Council of Norway’s policy for [open access to scientific publications](#):  
“[A]rticles from projects with funding from us [must] be made available immediately.”
- Horizon Europe’s policies for [open science](#):  
“[U]nder Horizon 2020, each beneficiary must ensure open access to all peer-reviewed scientific publications relating to its results.”
- The Act relating to Universities and University Colleges ([universitets- og høyskoleloven](#)), in particular Section 1-5, Subsection 6: “Universities and university colleges must ensure transparency regarding the results of research or academic or artistic development work.”
- The Act relating to the processing of personal data ([personopplysningsloven](#))
- The General Data Protection Regulation ([GDPR](#))

- The Copyright Act ([åndsverkloven](#))
- The Act concerning medical and health research ([helseforskningsloven](#)), especially Section 39, “The person or body responsible for the research and the project manager must ensure transparency in and around the research” and Section 45: “The person or body responsible for the research and the project manager can apply to the regional committee for medical and health research ethics for deferred publication in cases where this is necessary to protect legitimate interests linked to patents or competition, or in the interests of ongoing research.”

## 6. Principles of open science

As a general rule, results of research and teaching carried out at NTNU must be made publicly available where this is practically and legally possible. In many cases, however, open access to research data or learning resources may not be appropriate. This may be because the research is of a sensitive nature, de-identification of personal information is not possible, or the research or teaching includes the use of material protected by copyright.

Researchers and teaching staff may also be bound by commercial agreements that make open access impossible. It is still important to follow good scientific practice for documentation of research results and data management, and more limited access to research results may be relevant in certain cases, such as replication studies.

As far as possible, NTNU will strive to ensure that the University or its employees retain copyright protection for their work in connection with entry into publishing contracts and licences for use, and that the author’s moral rights are safeguarded.

### 6.1 Verifiability and open methods

*Relevant guidelines: 3.2, 3.6*

Transparency about methods and data that support claims in a publication is a prerequisite for good science, and thus for the trust that society has in scientific activities. NTNU will enable access to underlying data, method descriptions and algorithms for the processing of raw data, including source code, notebooks and coding procedures, where this is feasible.

### 6.2 Open access to research results

*Relevant guidelines: 3.1, 3.2*

Among the University’s most important research results are academic publications with associated data, method descriptions and source code, as well as results of practice-based research and artistic research. In line with national guidelines for [open access publishing](#) and [research data](#), NTNU must ensure open access to research results, whether through institutional repositories or through open access publishing, and open access to output data for reuse and aggregation where this is feasible.

Where the University's employees work in partnership with employees from other institutions, NTNU's part of the work must be made available in accordance with this policy, unless there is a special agreement to the contrary. For results originating from projects with external funding, the conditions imposed by the funder and/or through any consortium agreement will apply to the scope for open access. For research results produced in cooperation with students, [see the applicable IPR policy](#).

### 6.3 Open educational resources

*Relevant guidelines: 3.3*

Learning resources that the University's employees have produced for use in teaching must be made publicly available unless such availability violates applicable legislation on intellectual property. As far as feasible, the material should make use of resources with a licence for use that allows further dissemination.

NTNU makes repositories and publishing solutions for education resources available and assists employees in copyright issues related to these.

A prerequisite for learning resources that are used in the University's taught programmes is that they are produced during the educator's working hours and are therefore subject to the guiding principles for open access in this policy. Where teaching content is obtained from external parties, a collaboration agreement must specify which parts of the content (exercises, examination question papers, teaching materials, self-produced audio-visual material) can be made available under this policy, and which parts the external party will be entitled to, if applicable.

### 6.4 Results of artistic activities and artistic research

*Relevant guidelines: 3.1*

Results of artistic activities and artistic research under the direction of NTNU must be made available as far as feasible and in accordance with the Copyright Act.

### 6.5 Results created by students

It is desirable that student works also be made available. At the same time, students are not employed at the University, and the work created during studies at NTNU belongs to the student. However, NTNU will provide archival and repository systems that enable students to deposit work produced in connection with their studies if the student wishes to do so.

Where students work together with employees to produce research results, agreements must, as far as possible, be in place to safeguard the employee's right to make the result available in line with the policy.

### 6.6 Ethics

Some of the research at NTNU is of a particularly sensitive nature and sharing research results or teaching materials may conflict with principles of research ethics or laws and guidelines for privacy or security. NTNU will protect the right of employees to impose restrictions on open access to such material where this would violate ethical obligations, or if such access would be in conflict with privacy laws or the conditions specified in the notification form to the Norwegian Centre For Research Data (NSD) or in an informed consent form.

The University's code of ethics for employees must be followed.

## 6.7 Infrastructure

NTNU must ensure access to an adequate infrastructure to achieve the goals of the policy. This includes digital repositories for academic publications, research results, and results of artistic development activities, as well as storage capacity for research data, secure management of sensitive research data and learning resource repositories.