



College Statement on Artificial Intelligence and Generative

Al in Teaching, Learning, Assessment & Research

This statement is a living document that will be regularly reviewed and updated as Artificial Intelligence (AI) and Generative Artificial Intelligence (GenAI) technologies evolve and as other related College policies are published.

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Definitions

Artificial Intelligence (AI)

Artificial intelligence is generally understood to be a set of technologies that enable computers to perform a variety of functions usually perceived as requiring human intelligence – for example, understanding speech, recognising objects in images, composing written answers and problem reasoning. A more formal definition of an AI system from the European Union AI Act (2024) is:

...a machine-based system designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments[.] (EU AI Act 2024)





Generative Artificial Intelligence (GenAI)

Generative AI is the sub-area of AI, involving AI systems which generate content — for example, human dialogue, speech, images and video. GenAI systems are capable of generating such content based on a user's request or instruction. More formally, GenAI is defined by UNESCO as "an artificial intelligence (AI) technology that automatically generates content in response to prompts written in natural-language conversational interfaces" (UNESCO 2023).

Al and GenAl in Trinity

As Ireland's leading university and as a world leader in AI research, Trinity recognises that AI and GenAI offer new opportunities for teaching, learning, assessment and research. We also recognise that these technologies present challenges and risks, including to academic integrity, ethics, privacy, impartiality, intellectual property and sustainability.

Acknowledging these opportunities and challenges, Trinity commits to supporting the opportunity for students and staff to become AI literate and fluent, thereby helping them to navigate and respond to the challenges and risks of AI and GenAI in order to harness the potential of (Gen)AI to enhance teaching, learning, assessment and research – and to be prepared for future challenges as these technologies evolve. We also commit to providing ongoing resources and guidance to support students and staff to use AI and GenAI in ways that are appropriate, responsible and ethical – and to ensure that academic integrity is maintained in its usage.

College aspires to develop best practice guidelines in this area. In addition to the resources and supports that College provides, and recognising that appropriate uses of AI and GenAI tools vary across academic disciplines, Schools will have some flexibility to customise their own discipline-specific practices in line with this institutional statement, other institutional policies as they develop, and national and international regulation. The College goal is to enable overall consistency in the regulation of GenAI usage, while also respecting where disciplines or degree programmes require specific restrictions in GenAI usage in assessment preparation and execution. Thus, where disciplines or degree programmes wish to refine specific regulations on student use of GenAI for learning, general as well as programme-specific regulations should be communicated in the relevant discipline/degree programme handbook.

Such regulation could range from how student GenAI usage is acknowledged or cited within student assessment submissions, to prohibition of GenAI usage in the production of student assessment submissions.



Principles underpinning use of AI and GenAI in Trinity

The principles underpinning the use of AI and GenAI in Trinity align as appropriate with the College's Statement on Integrity (2022) and with the European Commission's Living Guidelines on the Responsible Use of Generative AI in Research (2024).

Transparency and Honesty

We will strive to be transparent and honest in our use of AI and GenAI, and to give clear, fair, impartial and appropriate acknowledgement and citation to any role that AI and GenAI have played in scholarship, teaching, learning, assessment and research.

Responsibility and Accountability

We take very seriously our own responsibility and accountability for our use of AI and GenAI and for the output we create via that use. Acknowledging the importance and necessity of human oversight, we will abide by College policies and other relevant policies and legislation in our use of AI and GenAI in scholarship, teaching, learning, assessment and research.

Respect

We will demonstrate respect for colleagues, students, research participants, subjects, the environment and cultural heritage in our use of AI and GenAI. We will strive to demonstrate respect for intellectual property, personal and sensitive data, and confidential information in its use.

Innovation

We will strive to harness the potential of AI and GenAI for enhancing or transforming teaching, learning, assessment and research, recognising that creativity and innovation must be balanced by responsibility, integrity, respect, transparency and sustainability at all times.

Guidance for educators/staff supporting teaching and learning

Trinity's Centre for Academic Practice have developed a GenAI hub for staff which aims to:

- explain how GenAl works including its capabilities and limitations;
- illustrate how GenAI can be used in teaching, learning, assessment and research;
- give insight into how GenAI is currently used to enhance teaching, learning, assessment and research at Trinity;
- identify risks and challenges to be considered when using GenAI.

Please see GenAI in Teaching, Learning, Assessment & Research for more information.





Further Links for Educators:

Generative AI: Guidelines for Educators (National Academic Integrity Network) July 2023

Guidance for students

<u>Guide to acknowledging the use of generative AI and referencing generative AI</u> (developed by the Library of Trinity College Dublin).

Guidance for researchers

Policy on Good Research Practice

Guidance for professional services staff

Guidance for professional staff will be made available in the coming months.

Frequently Asked Questions

What is GenAI?

GenAl is the sub-area of Al involving systems which 'generate' content on a user's behalf. Where data analytics and other forms of Al previously focused on analysing text, images, and speech, GenAl *generates new content* based on the user's question, query, instruction or prompt tailored to the user's needs, requirements or instructions. The content it generates can take the form of explanations, plans, process descriptions, questions, images or conversational dialogue. However, GenAl tools do not always generate fully correct answers and those using it are advised to read about the risks and restrictions on its usage.

GenAI has been defined as a 'game changer' for society (World Economic Forum 2023) with significant implications for higher education. As a result, it is essential that we understand what GenAI is, how it works, and how GenAI can be used ethically and responsibly to support teaching, learning, assessment and research — for which developing AI Literacy has become essential.





How do I use GenAI?

There are many GenAI tools available online (e.g. ChatGPT, Microsoft Copilot etc.) which are accessed via a query/conversational interface. These tools typically ask for a 'prompt' (in the form of a question or instruction) typed into a text space. To start using GenAI is thus very easy. If you can phrase a query or a question, you can use GenAI.

GenAl tools can generate very eloquent, convincing text and images. However, GenAl tools do not store facts and knowledge, rather they generate outputs based on **probabilities**. Thus, GenAl is prone to making factual errors (called **hallucinations**) which are nonetheless very convincingly presented. This is where academic/professional judgement and domain expertise are very important. If you are using GenAl, you need to double check the information it is giving you as it will present information which is simply not true! Therefore, it is crucial for any user to fact-check any output from a GenAl tool.

GenAl has proven to be a very effective tool for exploring information, suggesting activities or plans appropriate to a problem or task, or generating ideas or materials through interactive dialogue.

How do I cite usage of GenAI?

Where the output of GenAl is used in a document or work output, this usage should be acknowledged and appropriately cited. A citation should typically include the date of generation, tool used and prompts used to create the output with verbatim quotations enclosed in quotation marks. School/Degree programme handbooks should provide rules for such citation. The format of the citation is dependent on the type of work output or document for which it is being included. Where GenAl content is used verbatim (e.g., in the form of unedited text or image), this should be accompanied by a full citation, with text-based content included in quotation marks. For further guidelines on this see <u>Guide to acknowledging the use of generative Al and referencing generative Al</u> (developed by the Library of Trinity College Dublin).

Note any long verbatim quotation (e.g. more than one paragraph), even with citation, may be considered inappropriate or poor practice in student assessment documents and publications.

What should you NOT do with GenAI?

It is important to understand that some usages of GenAI are unlawful and must therefore be avoided.

Many GenAI tools are trained on vast amounts of data gleaned from a wide variety of sources. However, the training of such tools is not transparent and the exact extent of their training data and





sources remains unknown. Some tools that have been trained on material on the open web are likely to have ingested protected personal data, copyright-protected content, copyright-infringing content, misinformation, disinformation, hate speech, defamation, and all manner of other unlawful content. Such models are then likely to produce unlawful material in their outputs. However, even GenAl tools trained on curated data to avoid such illegal inputs can still be used in unlawful ways and can still produce unlawful outputs — and it is necessary to be aware of these problems when using such tools.

For example, since most GenAI tools harvest inputs and use interactions with users for their systems development, you must ensure that their inputs, prompts, queries, instructions, contextual information, and other interactions are lawful. So, just as you are **not allowed share personal, private or sensitive information** about colleagues/students on websites or via other electronic means, you are NOT allowed to use such information as part of inputs, prompts, queries, instructions and other interactions when using GenAI tools. In most cases, to do so is **unlawful** as you are sharing private information with a third party (the GenAI provider). Even where sharing such private information is not necessarily unlawful, it is against College regulations. Hence, student work (submitted assessments and contributions) are considered private information, and are NOT allowed to be uploaded into a third-party GenAI tool for any reason.

Similarly, content which is confidential in Trinity or confidential to your user's studies or work (research, teaching or administrative) or for which you do not own the copyright, or which is not publicly available, should NOT be used in creating inputs, prompts, queries, instructions, contextual information, and other interactions for GenAI. Again, in most cases, to do so is **unlawful**. Even where sharing such information is not necessarily unlawful, it is against College regulations. Hence, confidential College information is NOT allowed to be uploaded into a third-party GenAI tool for any reason.

What are the key concerns with using GenAl?

As well as the legal liability concerns mentioned above, there are several other concerns of which users of GenAI need to be aware. Because GenAI is trained on such a wide pool of data, content generated by a GenAI tool can contain factual errors and exhibit bias (which can come from bias already embedded in its training data).

The training and use of GenAI systems can also use significant amounts of energy and resources, leading to sustainability concerns. This energy consumption should be considered in relation to College Sustainability policies and practices. Additionally, some GenAI tools harvest information from user prompts including contextual information from users' interaction with GenAI tools, leading to privacy and intellectual property concerns. GenAI tools vary in regard to the extent of these concerns.





How can you use GenAl in your research?

Knowledge and understanding of how GenAI tools can be used for research is developing rapidly. Many of the issues and responsibilities covered in previous answers are highly relevant regarding lawful, ethical and sustainable use of GenAI in research. The accuracy of AI-generated content needs also to be carefully considered and biases mitigated. Citation of results from GenAI usage in published papers (conference and journal) are determined by the publisher/event organisers/professional body and adherence to their guidance needs to be maintained.

Regarding how GenAI use can be embedded into the research process and activities, many possible approaches are being explored e.g. using GenAI to correlate papers in literature reviews, using GenAI to generate possible approaches to a problem or task, using GenAI to iterate through and exhaustively evaluate possible solutions/approaches etc. Usage of such tools should be consistent with Trinity's Policy on Good Research Practice.

What advice should you give to students on their use of GenAI?

GenAI will be used by students, researchers and staff. Given the ubiquity of GenAI tools within everyday devices and platforms, it is impossible to ban their use. Students and staff are advised that GenAI can generate erroneous, biased content. Therefore, students and staff are expected to **fact-check** information generated by GenAI, and to seek out primary sources of information (e.g. reputable books, publications, papers etc.) as part of a rigorous academic practice. Further advice is available on the Centre for Academic Practice's <u>GenAI Hub</u> and the National Academic Integrity Network's <u>Generative AI Guidelines for Educators</u> (July 2023).

From an academic integrity perspective, if a student generates content from a GenAI tool and submits it as his/her/their own work, it is considered plagiarism, which is defined as academic misconduct in accordance with College Academic Integrity Policy. If a sentence or quotation from GenAI content is used by a student in their academic work, it must be referenced. Cases of plagiarism are considered under College Academic Misconduct Procedures and College's Academic Integrity Policy. A complete guide to Academic Integrity policies and procedures is available on Academic Affairs' Academic Integrity Policy and Related Procedures page. Many research funders and publishers now have policies in relation to the use or misuse of GenAI in writing and review for publications, funding proposals and other academic outputs. Researchers are advised to check any restrictions set by funders and publishers on the use of GenAI.





Related policies and resources

Please note, the policies below are those which may be relevant to GenAI. The use of GenAI for research purposes in the preparation of grants or publications will be subject to regulations specific to the funding agency or journal publisher respectively. None of the Trinity policies listed below currently specifically focus on generative AI. IT policies are also likely to be relevant.

- Policy, Practice and Regulations on Intellectual Property
- <u>Data Protection Policy</u>
- Academic Integrity Policy and Related Procedures
- Policy on Good Research Practice
- Equality Policy
- Centre for Academic Practice Generative AI in Teaching, Learning, Assessment & Research hub
- Library Guide to acknowledging the use of generative AI and referencing generative AI
- National Academic Integrity Network's <u>Generative AI Guidelines for Educators</u> (July 2023)

References

European Commission (2024) Artificial Intelligence Act.

European Commission (2024) Living Guidelines on the Responsible Use of Generative AI in Research.

National Academic Integrity Network (2023) Generative Artificial Intelligence: Guidelines for Educators.

Trinity College Dublin (2022) <u>Statement on Integrity</u>.

UNESCO (2023) Guidance for Generative AI in Education and Research.

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