



# Generative Artificial Intelligence & Academic Integrity

Emerging developments in artificial intelligence (AI) such as [ChatGPT](#) and AI-supported ghost writing services pose particular challenges to educators seeking to safeguard academic integrity. Breaches of academic integrity, whether human-generated or AI-generated, can contribute to an ‘undeserving’ degree award or progression status, with the potential to compromise Trinity’s degree award standards.



## Safeguarding assessment integrity is a ‘wicked’ problem:

there is no single instant solution. Mitigating against the undeclared use of AI can support Trinity’s established culture of academic integrity. Proactive design strategies can strengthen assessment integrity.

This resource:

- provides an introduction to recent developments in AI;
- outlines key academic integrity concerns for educators and institutions;
- identifies short term and long-term strategies for mitigating the threat posed by these new technologies.

## What are Generative AI tools, Large Language Models (LLM) and ChatGPT?

Generative AI tools can produce various types of content, including text, imagery, code, audio and video. **ChatGPT** is one such example.

ChatGPT is an AI-powered chatbot which generates plausible outputs in response to text-based prompts. Launched by the company **OpenAI** in November 2022, the first iteration of ChatGPT was based on OpenAI’s **GPT-3** – a large language model (LLM). Due to its potential to generate plausible academic outputs, ChatGPT has caused considerable discussion and debate in education about potential impacts on academic integrity.

Note that generative AI is a rapidly evolving field and the capabilities of these tools are constantly expanding. For example, the release of [GPT-4](#) in March 2023, OpenAI's latest release, has been hailed as the most powerful and impressive AI model yet<sup>1</sup>. It is expected that these technologies will rapidly

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<sup>1</sup> See OpenAI (2023) "[GPT-4 is OpenAI’s most advanced system, producing safer and more useful responses](#)"



proliferate and become increasingly integrated into other tools (such as Microsoft Word). Generative AI is also being used as a foundation for other AI systems, including [DALL·E 2](#) (which generates images and art work in response to a text description) and it is the basis for the copilot feature available in the code hosting repository [GitHub](#).

## Why are we concerned?

Generative AI tools such as ChatGPT are capable of generating outputs which are:

- grammatically correct;
- academic in writing style;
- highly relevant to the stimulus prompt/question.

As such, these tools have the potential to generate academic outputs which meet the requirement of particular assessment types, including essays, reports, maths questions, tests etc. Note that GPT-4 is capable of responding to image-based inputs (e.g. photos), although the outputs are still text-based.

This presents a number of key challenges for educators:

- As AI capabilities expand, it becomes increasingly **difficult to ascertain what has been generated by digital tools** and what has been generated by a human. As a result, generative AI poses an increasing threat to **academic integrity** in all disciplines, particularly to text-based and computational assignments.
- Generative artificial intelligence (e.g. ChatGPT) can also be **used to take ‘shortcuts’ with assignments**: for example it can be used to jump straight to the product/output without needing to ‘do the work’ and develop ‘thought ownership’.
- **Lines are blurring between plagiarism, fraud, and cheating**: particularly where students are unclear on the boundaries between legitimate use of artificial intelligence (for example, spell-check, voice-to-text, grammar support tools etc.) and fraudulent use of AI-generated text presented as a student’s own work.
- **TurnItIn does not currently signpost originality concerns around AI-generated outputs**, as these are technically ‘original’ text.



## Suggestions for immediate adjustments to assessment design

Risk to academic integrity is greatly increased in takeaway assignments, especially those where 100% of marks are allocated to a single assessment output/artifact, without evidencing the process of its development. The following strategies may be beneficial:

- Consider adapting assessment briefs to enable **confirmatory vivas/interviews**, potentially at random, to test thought ownership across a class/year/programme.
- Consider introducing **'showcase' events** that align to assignment deadlines, for example student presentations on text-based work to a peer/expert audience.
- Consider how **evidence of artifact development processes might be acquired**, for example via timestamped drafts, journal entries, calculations etc.
- Consider requiring **students to submit their evidence of process development** as a pdf file: this enables TurnItIn to track document metadata easily.
- Consider **adapting and revising assignments to support greater personalisation/ownership**. This [table of alternative assessment approaches](#) may of interest (Sambell & Brown/ QQI, 2023).

## Championing assessment integrity in assessment design: next steps

- Consider how assessment design, and related alignment with learning outcomes, might be (re)imagined to take account of emerging risks across the programme/discipline (for example where assignments move to featuring oracy rather than text-based activity).
- Step/stage assignments so students evidence the **'process'** of learning and **produce assignment outputs at different points of the semester/year**. This requires students to evidence the 'process' of engaging with assessment as well as submitting the final 'product' of learning.
- Consider using forms of assessment that demonstrate **thought ownership** – for example interviews, oral assignments, presentations.
- Consider moving towards **'personalised' assignment activity** (for example, critical incident accounts that require personal ideas/reflections.)

Note that programme team coordination is essential to reduce the risk of overwhelming students with overassessment. In some instances **revision of programme or module learning outcomes** may also be required to reflect the changing nature of knowledge generation and acquisition of skills in light of the integration of AI into everyday life.



## Resources

Academic Integrity Working Group, Trinity College Dublin (Feb 2022) [Statement on Integrity](#).

QQI (1 March 2023) [Advice on artificial intelligence in education and training](#).

Beckingham, S. Hartley, P. (March 2023) [‘The updated non-technical introduction to ChatGPT’](#) SEDA UK.

London & South East Academic Integrity Network Contract Cheating Working Group [‘Contract cheating detection for markers: checklist’](#)

Sambell, K. & Brown, S. (30 January 2023) [Table of alternative assessment approaches](#), QQI Conference Let’s talk about assessment 2023: rethinking assessment in higher education, Dublin.

## Further reading

Bretag, T., Harper, R., Burton, M., Ellis, C., Newton, P., Rozenberg, P., Saddiqui, S., & van Haeringen, K. (2019) Contract cheating: A survey of Australian university students. *Studies in higher education*, 44(11), 1837-1856. <https://doi.org/10.1080/03075079.2018.1462788>

Dawson, P. (2021) *Defending assessment security in a digital world: preventing e-cheating and supporting academic integrity in higher education*. Deakin University. <https://hdl.handle.net/10536/DRO/DU:30145913>

Newton, P. (2018) How common is commercial contract cheating in higher education and is it increasing? A systematic review. *Frontiers in Education* 2. <https://doi.org/10.3389/feduc.2018.00067>

Rettinger, D. A., & Kramer, Y. (2009) Situational and personal causes of student cheating. *Research in Higher Education*, 50(3), 293-313. <https://doi.org/10.1007/s11162-008-9116-5>

Weber-Wulff, D. (2016) Plagiarism detection software: Promises, pitfalls, and practices. In T. Bretag (ed.), *Handbook of Academic Integrity* (pp. 625-638). Springer; Singapore. [https://doi.org/https://doi.org/10.1007/978-981-287-098-8\\_19](https://doi.org/https://doi.org/10.1007/978-981-287-098-8_19)

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