

Guidance for Staff on Artificial Intelligence: How to maximise the value of AI in teaching and assessment

(Some sections of this guidance were adapted from resources developed originally by University College London and Monash University, Australia. The University is very grateful for the permission granted by both institutions to adapt materials for the purposes of this student guidance).

At a glance

- *There is no 'ban' on AI at St Mary's.*
- *Adopt an agreed and consistent set of rules on student use of AI for your programme – see Options in Section 22.*
- *Communicate these rules to your students clear on Programme and Module Moodle sites.*
- *Learn about and engage with AI tools and think about ways you can give students opportunities to develop their AI literacies.*
- *Think about the implications of AI for how you teach, what you teach and how you assess your students.*
- *Be vigilant for possible misuse of AI when marking student work.*

Key messages

- **No 'ban'** - AI tools are not banned at St Mary's. Instead, we embrace these new tools and are committed to ensuring that we support our students to use them wisely, responsibly and ethically.
- **Agree an approach on your programme(s)**– Each programme team will be required to develop an agreed 'position' on the permissible use of AI on their programme and any key restrictions on their use.
- **Adopt a consistent approach across modules** - Each programme team will be required to ensure that – as far as is possible - the 'rules' on permissible use of AI tools is consistent across modules in a programme to avoid students becoming confused. Where any deviation is unavoidable due, for example, to PSRB-related issues on a specific module, you must ensure that the rules on permissible use of AI tools is communicated clearly to students on the module Moodle site.
- **Optional modules** – Where possible, ensure that rules on permissible use of AI tools is also clear in relation to optional modules, or modules shared with other programmes, again to minimise the likelihood of students becoming confused by different rules.
- **Learn** – Staff are encouraged to take every opportunity to learn more about how AI technologies work, as well as their benefits and limitations. The better informed you are, the better placed you will be to support your students to understand the pros and cons of AI tools, and how to use them responsibly.
- **Engage** – Join in meaningful conversations with your peers about the practical and ethical considerations of emerging AI technologies. It is important to share ideas and insights as a community, and to participate in collective endeavours to integrate new technologies into our pedagogies and assessment strategies. Come along to meetings of the AI Forum.
- **Explore** - Investigate where and how academic principles, concepts and rules in regard to your own subject (e.g. including rules or requirements of PSRBs or other accrediting bodies) might require nuances in the way that AI tools are integrated into your teaching and assessment practices.

- **Review** – Take a fresh look at assessment design on your modules/programmes during the annual programme review process, and how you feel communication with students around acceptable and responsible use of AI technologies can be ensured on your modules/programmes. Consult your departmental Academic Integrity Lead (AIL) who will be able to offer additional guidance and advice about how to embed AI into assessments, or how to redesign assessments to make it harder for students to mis-use AI tools in completing assignments.
- **Talk to your students** – Have open and frank discussions with your students about AI and its allowable use or restrictions on your programme/modules. Listen to their concerns and their ideas. You may find that they have very good and constructive suggestions to offer about how AI tools might useful inform new types of assessment (for example).
- **Use AI detection tools supported by the University** – Using freely available AI detection tools (like GPTZero) may undermine GDPR rules (student coursework is confidential). Therefore, St Mary's does NOT encourage academic staff to utilise AI detection tools other than those which the University has a formal subscription to (e.g. Turnitin). Staff should ONLY use those tools to which the University subscribes and that are supported by TEL.
- **Make it clear what the rules are on permissible use of AI tools** –
 - Option 1** - Restrict **use** of generative AI for most assessment tasks – i.e. permitted use of AI tools is the exception rather than the norm, with its use only allowed in very specific contexts (e.g. a specific module or even a specific assessment task). Any use of AI must be properly acknowledged by the student (proper use of citation etc).
 - Option 2** - Restrict **types** of generative AI tools for most assessments – i.e. permitted use of AI is limited only to a single AI tool (e.g. ChatGPT) within the programme. Use of all other AI tools is prohibited completely. Any use of AI must be properly acknowledged by the student (proper use of citation etc).
 - Option 3** - Restrict **ways** of using generative AI tools for assessments – i.e. limit the permissible use of AI tools to facilitating the learning process, and gathering evidence, ideas etc in preparation for an assessment, but prohibiting the inclusion of any text, data or images in assessments that are totally generated by an AI tool without adaptation/amendment (e.g. just 'cutting and pasting'). Any use of AI in a summative assessment must be properly acknowledged by the student (proper use of citation etc).
 - Option 4: No restrictions** on use of generative AI for facilitating learning or developing an assessment for submission – i.e. the programme team assume that students will utilise AI tools both to aid their learning, and to develop assessments for submission. Any use of AI in a summative assessment must be properly acknowledged by the student (proper use of citation etc).

Section 1 - Introduction

There is a lot of interest in AI tools in the HE sector with academics already involved in experimentation with artificial intelligence (AI) tools such as ChatGPT, DALLE-2, CoPilot, and most recently Google Bard. AI tools are potentially transformative as well as disruptive, but it is difficult to escape the conclusion that – for good or ill - they will feature in many professional workplaces in the future and use of AI will become commonplace.

Section 2 - The purpose of this guidance

This guidance document has been produced for the benefit of all staff at St Mary's and in particular those staff engaged in teaching or supporting the learning of our undergraduate and post graduate students (levels 3, 4, 5, 6 and 7). It provides practical guidance, advice and examples of practice so that staff are better informed and better -equipped to integrate AI tools into their practice at St Mary's. Separate staff guidance will be provided to staff engaged in supervising Phd/EdD students at level 8.

Section 3 - What are they and how do they work?

Generative artificial intelligence technologies (e.g. ChatGPT) use machine learning algorithms to collect data, monitor actions and interactions and respond to further inputs and feedback in order to fine tune their engines. Many of us have been using AI-based tools, such as Google Maps, predictive text or Grammarly, in everyday life for years. The quality and validity of outputs from AI tools such as ChatGPT can be highly variable, depending on the prompt it has been given and the way the algorithms have been trained. Academic users have reported examples of these tools falsifying references and making up quotes which aren't always easily detectable and clearly compromise any work using this content. AI tools have also been criticised for creating overly generalised responses. They are programmed to provide a response based on relevance, whether or not it is based on accurate data. They do not engage with information the way humans do, and they do not operate according to moral or ethical principles. This means any 'product' they produce has to be treated with extreme caution. Students need to understand this, so don't be afraid to highlight in your discussions with them the potential 'dangers' that accompany use of AI tools.

Section 4 - New types of AI Tools

A wide range of new AI tools have appeared in recent months. More appear every week.

- ChatGPT** – a new AI Chatbot developed by OpenAI that generates text in response to key search words or phrases
- Google Bard** – a new Chatbot tool, and likely to be a strong competitor for ChatGPT
- NVIDIA's NeMo** – a toolkit for conversational AI.
- Microsoft Bing** – See <https://www.bing.com/>
- Jasper** - uses natural language processing to generate human-like responses.
- Chatsonic by Writesonic** – a chatbot for news content. Because Chatsonic is supported by Google, it is aware of current news and can provide you answers and stories that relate to it.

A good recent summary of AI Platforms/Chatbots is [this](#) one by Sabrina Ortiz on ZNET website. [27 Feb 2023]. She highlights ChatGPT as the best Chatbot at present *“due to its exceptional performance, versatility, and free availability.”*

Section 5 - What is AI good for?

These tools can help students in a number of ways – for instance:

- Answering questions where answers are based on material which can be found on the internet.
- Drafting ideas and planning or structuring written materials.
- Generating ideas for graphics, images and visuals.
- Reviewing and critically analysing written materials
- Helping to improve grammar and writing structure – especially helpful if English is a second language.
- Experimenting with different writing styles.
- Getting explanations.
- Debugging code and improving computer code.
- Getting over writer's block.
- Text editing.

This is far from being an exhaustive list – undoubtedly the ability of AI to carry-out other tasks, and increasingly sophisticated and challenging ones – will develop quickly over time.

Section 6 - Limitations

Artificial and human intelligence are not the same. AI tools do not understand anything they produce nor do they understand what the words they produce 'mean' when applied to the real world. Open.ai, the creators of ChatGPT, have provided [helpful guidance for educators and students](#)

OpenAI point out that: *“One example of why ChatGPT may not always provide accurate answers is that its training data cuts off in 2021. This means that it is unaware of current events, trends, or anything that happened after that point in time. It will not be able to respond appropriately to questions or topics that require up-to-date knowledge or information. For example, it may not know who the current president of the United States is or what day it is”.*

They also note that: *“ChatGPT has no external capabilities and cannot look things up in external sources. This means that it cannot access the internet, search engines, databases, or any other sources of information outside of the current chat. It cannot verify facts, provide references, or perform calculations or translations. It can only generate responses based on the context it has (user inputted information, training data)”*.

ChatGPT may also produce content that perpetuates harmful biases and stereotypes. *“This includes generating biased or stereotypical portrayals of groups of people, which can be harmful, particularly in a context where those biases are being taught, learned or otherwise reinforced. The model is generally skewed towards content that reflects Western perspectives and people”*.

To summarise:

- Whilst their output can appear plausible and well written, AI tools frequently get things wrong and can't be relied upon for factual accuracy.
- They perform better in subjects which are widely written about, and less well in niche or specialist areas.
- Unlike a normal internet search, they don't look up current resources and are currently some months out of date.
- They cannot currently provide references – they fabricate well formatted but fictitious citations.
- They can perpetuate stereotypes, biases and Western perspectives.

Section 7 - How will they impact learning and teaching now and in the future?

Used thoughtfully, AI tools can be used to support academic practices:

- They can be used for academic writing in order to allow users to support the flow and structure of writing, alongside more familiar tools like spelling and grammar checkers.
- A well-crafted prompt¹ (or series of increasingly specific prompts) can generate basic content that can be refined and corrected (where necessary), allowing learners to focus on higher-order aspects of learning and exploring concepts.
- They can support student learning, for example, they can explain computer code in plain English, support language conversation practice and generate images in response to text prompts.

Generative AI tools will continue to impact and influence the way that we engage in learning and teaching in higher education, in similar ways to previous technologies such as spell-checkers, online libraries and calculators, as well as in new and unknown ways.

Section 8 - Shouldn't we just 'ban' them?

It is not practical or beneficial to try to ignore, ban or eradicate AI. Instead, we are, as a community of scholars, dedicated to supporting our students at St Mary's to develop their understanding of AI tools so they are better-placed to use them wisely, responsibly and ethically, and in ways that helps them to build their learning, rather than undermining it.

Our challenge as academics and learning support experts is to think creatively about how we can re-develop and re-think assessment, teaching and learning in ways that promotes this responsible engagement with AI. It will be important to carefully consider the purposes of assessments and the forms of evidence of learning that are valued in relation to modules, units and students, and to take the opportunity to embrace new forms of 'authentic' assessment.

Pedagogical approaches that value authentic, creative, future-focused and programmatic assessment continue to be relevant in this changing context, and may help staff and students to navigate some of the challenges that are emerging. By proceeding knowledgeably, thoughtfully and ethically in all aspects of learning, teaching and assessment, we will be well placed to navigate the challenges and opportunities of a dynamic technological landscape.

¹ Eager, B, (2023) *Academic Writing AI Prompt Phrasebook : 500+ Example Prompts to Accelerate Academic Writing and Research*, Kindle Edition. Available via Amazon: <https://www.amazon.co.uk/Academic-Writing-Prompt-Phrasebook-Accelerate-ebook/dp/B0C12643GD>

There are also some pressing concerns and practical challenges that apply to existing approaches.

For example:

- What immediate changes are needed to the way assessment is designed and conducted?
- How do the rules and principles of academic integrity apply in relation to ChatGPT or other technologies?

Section 9 - Is use of AI tools 'banned' at St Mary's?

No – they are not banned. There are ethical implications of not using (or stopping others from using) AI technologies, such as ChatGPT. Such technologies are already being embedded into everyday software and devices (e.g. within Microsoft Office, Google Maps, SMS) and it is becoming difficult if not impossible to avoid them. Educators have a responsibility to support students to learn how to navigate the present and the future.

Detailed guidance on the use of AI tools (like ChatGPT) was issued to students via the student news feed in February 2023 (see below). This places the emphasis on students taking responsibility for their own learning by developing their understanding of these AI tools, and their limitations, and using them responsibly and ethically – and being mindful of the potential dangers of infringing the University's regulations on Academic Misconduct. This news item has been superseded by the publication of guidance on AI tools for students [\[Insert link\]](#). Just as use of AI tools is not 'banned' in relation to students, staff use of AI tools is also permitted, and indeed encouraged on the basis that the better our staff understand both the value and pitfalls of AI tools, the better-placed they will be to support their own students to use AI tools responsibly, ethically and effectively.

Section 10 - AI and students

Whilst they are attractively powerful and easy to use, they can also provide misleading or incorrect information, and can negatively impact student learning as they can offer shortcuts that reduce the need for critical engagement that is key to deep and meaningful learning. Students need, therefore, to be aware of the difference between reasonable use of such tools, and at what point their use might be regarded as giving an 'unfair advantage'. This would constitute academic misconduct, which is an infringement of the University's regulations. It has been made clear, therefore to students in a parallel guidance document [\[Insert link\]](#) that they should not use AI tools to generate responses to assessment tasks and submit them as their own work. It has also been made clear to students that if teaching staff suspect a student is trying to pass off AI-generated output as their own work then the regulations on [Academic Misconduct](#) apply.

ChatGPT is actually capable of generating perfectly appropriate guidance for students on how to use AI ethically and responsibly. A recent [search in ChatGPT](#) brought up five very good bullet points. The first three of these are copied below:

- **Understand the Limitations:** Large language model generative AI is a powerful tool, but it is not perfect. As a student in higher education, it is important to understand the limitations of the technology and be aware of its potential for errors and biases.
- **Use the Tool Ethically:** When using large language model generative AI, it is important to act with integrity and use the tool in an ethical manner. This includes not plagiarizing or fabricating content and properly attributing any information generated by the AI.
- **Check Accuracy:** Before using any information generated by large language model generative AI, it is important to verify its accuracy. This may involve cross-referencing the information with reliable sources or consulting with experts in the field.

If students follow the guidance that ChatGPT itself provides, they are much less likely to use it in an inappropriate way and more likely to develop as an effective learner.

It has been made clear to students in the guidance provided to them, that over-reliance on AI tools will reduce their opportunities to hone their writing, critical thinking, and evaluation skills – key academic and professional skills which they will need as they progress through their studies and beyond. It has also been made clear to students however, that judicious and prudent use of AI tools can, if used in a targeted manner, help them to build critical analysis and evaluation skills – perhaps

by studying and critiquing what AI tools produce, and making judgements about whether what they produce is actually valid and believable, and how it might be improved.

Section 11 - What information or guidance has been provided to students?

Student-facing guidance on the use of Artificial Intelligence is available using the link below:

[Student Guidance on Artificial Intelligence](#)

Section 12 - Can restrictions on the use of AI tools vary?

Yes, they can. Some programmes are subject to oversight by a PSRB. This may, of itself, involve restrictions on the use of AI tools. On other programmes, there may be very good reasons for restricting use of AI tools on specific assessments, or for specific uses. AI tools can be very effective as 'text editing tools'. If the purpose of the assessment is partly to measure students' text-editing skills, there might be good reason to outlaw use of AI tools for such an assignment. However, some lecturers may be happy to see students using AI as a text-editing aid, so long as the final product (text) is primarily the work of the student. The decision whether to allow students to use AI tools is an academic judgment and one that you are best placed to make as the subject expert. You may, for example, choose to allow use of AI tools on some assessments or tasks, but not others. You may allow students to use specific AI tools, and not others.

Section 13 - Establishing a 'position' on the use of AI as a programme team

In the guidance published to students, they are encouraged to seek additional guidance from their respective programme teams on how you may use AI tools in a legitimate way in specific modules and in a way that avoids gaining 'an unfair advantage' or 'cheating'. It is particularly important, therefore, that each Programme Lead ensures that members of their team have a shared and detailed understanding of any specific restrictions on the use of AI that may apply in specific modules or at programme level, and then communicate these restrictions clearly to students on Programme and Module Moodle sites. Some programme teams may be happy for students to use AI tools as long as they student makes it VERY clear and explicit how, where and why they have chosen to use them and how this has aided their own learning. Explicit citations may be required in such examples, as well as some kind of meta-cognitive 'reflective' component where the student explains how using AI helped them to improve as a learner. In the case of shared modules programme leads should ensure that there is one set of consistent rules for the use of AI on such modules – this will require liaison between programme leads/course leads.

Section 14 - How should students acknowledge or cite AI sources in their work?

If you have encouraged and supported your students to use AI tools judiciously and constructively you may also wish to advise them on how to cite use of AI tools in an explicit way, by reminding them of three letters: 'ADR' = Acknowledge, Describe and Reference. They can draw on the ADR prompts below to provide a brief explanatory paragraph and citations at the end of their submission. This may be include din the word count/limit imposed.

Acknowledge. Students must acknowledge use of the AI tool:

- No content generated by AI technologies has been presented as my own work
- I acknowledge the use of <insert AI system(s) and link> to generate materials for background research and self-study in the drafting of this assessment.
- I acknowledge the use of <insert AI system(s) and link> to generate materials that were included within my final assessment in modified form.

Describe. Students must describe how the information or material from AI was generated (including the prompts used), what the output was and how the output was changed by the student.

Reference. Students must provide a proper citation.

For example, the paragraph added at the end of the assignment might read as follows:

Acknowledgement: I acknowledge the use of ChatGPT (<https://chat.openai.com/>) to plan my essay, and generate some initial ideas which I used in background research and self-study in the drafting of this assessment.

Description of use of AI: I used ChatGPT to create a high level structure which I then adapted in my essay, choosing to focus on Bentham's contribution to philosophy and to utilitarianism, and on the impact on human rights and civil liberties. I used one further ChatGPT prompt to generate some high level ideas about utilitarianism and civil liberties.

Reference: OpenAI, ChatGPT, 15Feb 2023, <https://chat.openai.com/APA>

Monash University provides a very useful guide for students regarding proper citation of AI generated content/materials/ideas etc. Click [here](#).

Section 15 - Remind students of the principles of academic integrity

- Claiming authorship over work that is not their own, without acknowledgement, is a breach of academic integrity. Part of academic integrity is being clear about how student work has been produced and not misrepresenting where information and ideas have come from. AI tools do not always provide clear references so it may be unclear where text or other materials were sourced from.
- Assessment in a module is designed to provide evidence of learning, reassuring the University and the community that future graduates are competent in their roles as future professionals and citizens. Submitting material for assessment that is not their own, and is the product, rather, of a third party (e.g. an AI tool) undermines this principle.
- Academic integrity is about shared values as a University community and they apply to students and staff alike. These shared values form the basis for ethical interactions and the credibility of the degrees awarded by the University. As future professionals all our graduates will be expected to demonstrate integrity and honesty.

Section 16 - What is Chat GPT?

It would not be an exaggeration to say that a large percentage of the recent media attention has been focused on ChatGPT. But what is it?

AdvanceHE has described it thus: "ChatGPT is a sophisticated chatbot capable of Generating new text through its pre-training on vast amounts of human written content. It uses natural language processing software to transform this data to create text-like human writing with accurate grammar, punctuation and spelling. As the first self-taught text generation program ChatGPT can learn and adapt to the writing style of its user – representing a significant advance in the development of AI writing tools". Source: AdvanceHE Partnerships Update, March 2023

In an article by Debby Cotton et al, published in March 2023, the authors describe it as being *"notable for its size, with 175 billion parameters, making it one of the largest language models currently available. It is notable for its ability to perform a wide range of language tasks, including translation, summarisation, question answering, and text generation, with little or no task-specific training"*. See: <https://www.tandfonline.com/doi/full/10.1080/14703297.2023.2190148>

Experts in AI agree that ChatGPT is one of the most impressive of the new generative text AI tools. So you may feel that in your own modules it would be best to focus on exploring this AI tool with your students, integrating it into learning tasks you set for students and into the assessments that you develop in your modules. A good starting point may be to submit your existing assessment titles or questions into ChatGPT and see what it generates. This might prompt some further thought on how the nature of an assessment might need to be adjusted or re-focused to encourage students to use ChatGPT in an iterative way – i.e. by using a series of increasingly refined and specific 'prompts'. The quality of the outputs produced by ChatGPT is, after all, largely driven by the quality of inputs.

Section 17 - What are AI Detection Tools and can we use them?

Online sites and resources are already appearing which will enhance the ability of markers in universities to determine with greater confidence whether students have drawn on AI generative text in their assignments. For example, *GPT Zero* is a site that enables you to paste a body of text

(e.g. an assignment) into a search box (a bit like Google). Its free. Anyone can use it. Over 1 million people are already using it. This figure will grow rapidly. Many similar sites are likely to emerge. They will become increasingly effective. See: <https://gptzero.me/> However, due to concerns about GDPR and copyright etc, some universities are now routinely using GPTZero or similar open source AI tools, and are not encouraging their use by markers. St Mary's has similar concerns at this stage and is NOT encouraging academic staff to utilise AI detection tools other than those which the University has a formal subscription to (e.g. Turnitin). At the time of writing, the University is carrying-out testing on a new Turnitin AI embedded detection tool, and as soon as it is available for use, all staff will be informed.

Section 18 - What does ChatGPT have to say about its impact on higher education?

When this question was inputted to ChatGPT, the response was very interesting (see below):
Prompt: 'What are the implications of AI like ChatGPT for higher education?'

AI like ChatGPT can have significant implications for higher education.

Here are some potential areas of impact:

1. **Personalized Learning:** With the help of AI, higher education institutions can provide students with personalized learning experiences. ChatGPT, for example, can help students find the information they need, provide feedback on their work, and even suggest personalized learning paths based on their interests and strengths.
2. **Streamlined Admissions:** AI can help universities streamline the admissions process by automatically sorting through applications and identifying the most qualified candidates. This can save time and resources for universities, while also making the process more fair and objective.
3. **Enhanced Research:** AI can help researchers analyze data and discover new insights. ChatGPT can be used to sift through vast amounts of research papers and identify patterns and connections that humans might miss. This can help researchers make more informed decisions and advance their fields more quickly.
4. **Improved Student Support:** Chatbots like ChatGPT can provide students with 24/7 support and assistance. This can be especially helpful for online students who may not have access to in-person resources. Chatbots can answer frequently asked questions, provide feedback on assignments, and even offer emotional support when needed.
5. **Automated Grading:** AI can automate the grading process, freeing up professors' time to focus on other aspects of their teaching. This can also make grading more objective and consistent, as AI algorithms are not subject to the same biases and emotions as human graders.

Overall, AI like ChatGPT has the potential to revolutionize higher education, making it more personalized, efficient, and effective. However, it is important to approach AI with caution and ensure that it is used ethically and responsibly.

Section 19 - Critical analysis of AI-generated content

AI can be used to help students develop critical analysis skills and evaluative judgement. Options include:

- Engage students to generate text using AI-generative models and ask them to appraise the quality of the output. The appraisal could look at relevance, authenticity, bias, cohesion, and consistency of the output. Modelling such appraisal process can develop students' cognitive abilities to evaluate AI-generated output and promote AI literacy. Students could find limitations in the output and develop an understanding of the standards of their written tasks.
- Ask students to generate a number of introduction paragraphs, then assess them using a provided rubric or set of criteria. What are the features that make a good introduction?
- Generate a range of example texts that can be used for structured comparison (David Nicol has some useful resources on this). Students analyse the similarities and differences between multiple responses to a question. In medicine, for example, students could compare different treatment plans. In business, they could compare different financial

reports. This can lead to insights about the topic being written about, different ways of approaching a written task, and the advantages and disadvantages of AI writing tools.

AI-Assisted creative approaches

Generative AI tools have the potential to be used creatively to advance learning and teaching across disciplines. Examples may include:

- Engaging students to use AI tools to generate texts on a topic for different audience groups and asking them to compare and contrast the language used.
- Using AI tools for creative writing. For example, students could write the first paragraph, the AI tool could write the second paragraph, and so on.
- Engage AI in a critical debate about a set topic.
- Use AI tools to create choose-your-own-adventure scenarios for students to try out different actions and reflect on potential consequences.

e.g.

“Let's have a debate about agriculture and climate change in the Netherlands. After each of my sentences, argue the opposite.”

“ChatGPT: Sure, I can do that. Let's begin!

User: Regulations in line with environmental sustainability are necessary to the long term health of the Dutch agricultural industry.

ChatGPT: Excessive regulations can hinder the Dutch agricultural industry's ability to compete globally and stifle innovation. A focus on profitability and efficiency should be the priority, rather than strict environmental regulations.

User: Profitability will be harmed by climate change as the ecosystem changes and farming becomes less predictable.

ChatGPT: Climate change is a natural occurrence, and the Dutch agricultural industry has always adapted to changing conditions. Farmers can use new technologies and practices to maintain their profitability and productivity in the face of climate change. Furthermore, the Dutch government can provide financial support and incentives to help farmers adapt.”

There are also ways in which AI tools can support academics to draft specific types of assessment or assessment tasks. For example:

Prompt: “Write a postgraduate level multiple choice question about autobiographical memory and ageing. Add feedback.”

ChatGPT Response:

Which of the following is not considered a characteristic of autobiographical memory decline in older adults?

- A)** Decreased specificity of memories
- B)** Increased reliance on semantic memory
- C)** Enhanced recall of positive events
- D)** Impaired recall of negative events

Answer: C

Feedback: While older adults may have a tendency to recall more positive events, this is not considered to be a decline in their autobiographical memory, but rather a cognitive bias. A decline in autobiographical memory is characterized by a decrease in the specificity of memories and an increased reliance on semantic memory, as well as impaired recall of negative events.

As can be seen from the example above, there is enormous potential for students to utilise AI tools as a kind of personalised academic tutor, or sounding board off which they can ‘bounce’ ideas, seek feedback, and seek insights into alternative view points on a topic.

Section 20 - Actions to take as Subject/programme Leads

- Familiarise yourself with AI tools – develop your insights into how they work, and how to make maximum use or derive maximum value from them.
- Open a dialogue with your students on how they use AI currently and how they may have used it in their previous institutions.
- Develop with your programme team a clear ‘shared position’ on the use of AI by students. A united and agreed position helps to ensure consistent messaging to students.
- Specify the conditions for the use of generative AI at the start of the programme during Welcome Week, and repeatedly if necessary thereafter.
- If a module deviates from the normal programme rules on the permissible use of AI tools, ensure that this is flagged clearly for students.
- Explain to students how they should acknowledge the use of generative AI in their assessments – this should be reinforced by Module Convenors.
- Point students to further guidance on using AI – in particular the [AI Student Guidance \[Insert Link\]](#) provided for them by the University. This should be reinforced by Module Convenors.
- Ensure that Module Convenors and other staff involved in marking student work on your programmes utilise only authorised AI detection tools (i.e. Turnitin) supported by the University.
- Support your Module teams to consider how AI tools can be integrated appropriately into pedagogical approaches, and into assessment design so they become an embedded aspect of the student experience.

Section 21 - Actions to take as Module Convenors

- Familiarise yourself with AI tools – develop your insights into how they work, and how to make maximum use or derive maximum value from them.
- Explain the rules on permissible use of AI tools for your module and ensure these are clearly explained in writing in the module Moodle site.
- Clarify whether students are required to reflect on how they have utilised AI tools in their assessment (e.g. in a short reflective paragraph) at the end of assessments.
- Explain to students how they should acknowledge the use of generative AI in their assessments via appropriate citation.
- Point students to further guidance on using AI – in particular the [AI Student Guidance \[Insert Link\]](#) provided for them by the University
- Utilise during marking process the AI detection tools (i.e. Turnitin) that are supported by the University. Escalate concerns about mis-use of AI tools and academic misconduct to your Academic Integrity Lead (AIL).
- Consider how AI tools can be integrated appropriately into your pedagogical approaches, and into your module assessments so they become an embedded aspect of the student experience.

Section 22 - Specify conditions for the use of generative AI in assessment

Option 1 - Restrict **use** of generative AI for most assessment tasks – i.e. permitted use of AI tools is the exception rather than the norm, with its use only allowed in very specific contexts (e.g. a specific module or even a specific assessment task). Any use of AI must be properly acknowledged by the student (proper use of citation etc).

Option 2 - Restrict **types** of generative AI tools for most assessments – i.e. permitted use of AI is limited only to a single AI tool (e.g. ChatGPT) within the programme. Use of all other AI tools is prohibited completely. Any use of AI must be properly acknowledged by the student (proper use of citation etc).

Option 3 - Restrict **ways** of using generative AI tools for assessments – i.e. limit the permissible use of AI tools to facilitating the learning process, and gathering evidence, ideas etc in preparation for an assessment, but prohibiting the inclusion of any text, data or images in assessments that are totally generated by an AI tool without adaptation/amendment (e.g. just ‘cutting and pasting’). Any use of

AI in a summative assessment must be properly acknowledged by the student (proper use of citation etc).

Option 4: No restrictions on use of generative AI for facilitating learning or developing an assessment for submission – i.e. the programme team assume that students will utilise AI tools both to aid their learning, and to develop assessments for submission. Any use of AI in a summative assessment must be properly acknowledged by the student (proper use of citation etc).

For example:

1. Generative AI tools cannot be used in this assessment task

In this assessment, you must **not** use generative artificial intelligence (AI) to generate any materials or content in relation to the assessment task.

2. Generative AI tools are restricted for this assessment task

In this assessment, you can use the following generative artificial intelligence (AI) only- [insert names of AI tools, or types of tools (e.g. image generators/text generators)]. Any use of generative AI must be appropriately acknowledged.

3. Generative AI tools are restricted for certain functions in this assessment task

In this assessment, you can use generative artificial intelligence (AI) in order to [insert functions for which use is permitted] only. Any use of generative AI must be appropriately acknowledged.

Example functions might include:

- generate passages of text that must then be transformed to apply to each student's particular context.
- produce summaries of topics that provide a basis for further non-AI-assisted enquiry.

4. Generative AI tools are not restricted for this assessment task

In this assessment, you can use generative artificial intelligence (AI) to assist you in any way you choose. Any use of generative AI must be appropriately acknowledged.

Section 23 - How should we talk to students about AI?

As we may have educated students about the ethics of using contract cheating sites, it is important to talk to students in clear, unambiguous ways in order to educate them about the ethical and intellectual implications of using AI technologies. Learning how to use AI technologies appropriately is rapidly becoming part of academic and career development. Many students will have been using AI in in their previous colleges/6th forms etc and it likely that they will increasingly be expected to be AI-literate in their professional careers. It is crucial that their education plays a role in developing their critical thinking and reflective skills around the evaluation of a range of sources, including AI-generated material.

This should also include advice on the vocabulary so that it is taught precisely. This article may be helpful to staff: <https://www.raspberrypi.org/blog/ai-education-anthropomorphism/>

Section 24 - Set expectations for how generative AI will be used in your unit.

- Identify and document what cannot be used in each assessment task in the assessment details on Moodle. It may help to explain the rationale for this position to students.
- Refer students to the Guidance provided on AI for them.
- Develop a Moodle 'forum' or classroom discussion about any 'grey areas'.
- Provide scenarios where AI use is and is not acceptable.

For example:

Scenario	Sample guidance provided to students
Students are given, or may create for themselves, text generated by ChatGPT. They are then asked to modify this text in relation to an assignment brief.	"ChatGPT or other AI tools may be used to generate an initial passage of text, but you must then change this text... Please provide both the initial AI-generated text and your changes (via Tracked Changes in Microsoft Word)"
Students use AI tools in learning about their topic and preparing an assignment, but may not include	"ChatGPT or other AI tools may be used for study purposes and to learn about your topic, but you may not include any

any AI-generated materials in the final submission	AI-generated materials in the final submission. This includes copying and pasting text and then editing.”
Students use AI tools in learning about their topic and preparing an assignment, but all AI-generated materials included in the final submission must be clearly acknowledged.	“ChatGPT or other AI tools may be used for study purposes, to learn about your topic, and to develop your assignment. However, you must include a clear declaration of all generative AI tools used (e.g. ChatGPT, DALL-E, Grammarly, voice-to-text), how and where you have used them (e.g. ‘ChatGPT was used to generate an initial structure for the Introduction and Conclusion. I then edited this to correct factual inaccuracies and to strengthen the connection between the general principles of systems-based medicine and my local healthcare context’).

Section 25 - Explain the difference between ‘contract cheating sites and artificial intelligence.

- Most contract cheating sites are blocked on the university network because their business model is based on asking students to commit academic misconduct. These sites buy and sell student work and answers to assessment.
- Artificial intelligence does not seek to maliciously create or share student work or university intellectual property. As with a site like wikipedia, it collates information that may or may not be correct according to inputs. Wikipedia data is input by people, while data put into a tool like ChatGPT trains the algorithms to refine its data collection.
- It is the *use* of AI that determines whether or not an academic breach has occurred. It is a students’ responsibility to ensure that they engage with generative AI ethically and responsibly and adhere to the assessment conditions for each assessment task.
- Emphasise the importance of thorough use of citation and referencing and ‘reflecting’ on how AI has informed or enhanced their learning and their skills development.

Section 26 - Bridge understanding - Help students to understand how generative AI works, and what the ethical considerations and limitations are

- AI is not a primary source of information, it is a language processing model. The information that AI generates is unreliable and must be reviewed critically for accuracy and appropriateness.
- Tools such as ChatGPT are commercially oriented and use any data that is entered by users to train their algorithms. This data is not treated as confidential or secure (e.g. it is possible that the information students enter into ChatGPT could be reported to the University).
- ChatGPT generates content from other content on the Internet. This means that generated content may constitute repurposed or stolen intellectual property.
- AI technologies cannot process knowledge, think or feel in the same way as a human, and may not address cultural contexts and social nuances in their responses.

Section 27 - Discuss - Engage in meaningful dialogue about learning and teaching and the implications of AI technologies

- Discuss these technologies with students, including their possibilities and limitations in order to promote responsible and acceptable use.
- Content generated by artificial intelligence technologies is biased in a particular way. This bias comes about from the bias that is already present in its datasets as well as the way that it processes that data (it derives a kind of “average” from its dataset, which ignores diversity).
- AI can be a useful study tool, provided that students engage with it critically and are mindful of the ethical considerations above.

Section 28 - Educate – explain to students about AI in the context of academic integrity, as well as more generally

This needs more than reminding students to complete their academic integrity compulsory module. The literature shows that where students build relationships with their educators, it reduces motivations to breach academic integrity. Build relationships with students by teaching them about academic integrity in the context of a module.

Section 29 - Generative AI and assessment

A key purpose of assessment is to yield evidence of student learning. This evidence depends on submitted work accurately representing each student's contribution.

Use of generative AI technologies to produce text and other media as part of student submissions (or, indeed, as part of the process of developing such submissions) needs to be thoughtfully supported and/or limited, to ensure responsible use. It also needs to be clearly and openly acknowledged when in use.

Providing a clear rationale for assessment conditions that are imposed will help students to comply and see the value in responsible uses of AI technologies. Limitations should align with the Monash University institutional position of responsible use of AI within the *Assessment and Academic Integrity Policy*.

Section 30 - Considerations for assessment design

An important concern about generative AI relates to how it could be used by students to complete summative assessments. By emphasising responsible use of AI, there is an opportunity to consider **why** we are assessing our students, **what** is being evaluated, and **how** evidence of learning is being gathered.

Here are ideas and guidance about ways that assessment could be modified or overhauled when rethinking the type of evidence that is important to generate in order to effectively assess students' learning.

1. Check assessment design against AI Tools

It can be useful to 'test' whether your assessments are designed in a way where they can be easily completed by artificial intelligence. For example, it is possible to register an account and explore the capabilities and limitations of ChatGPT. Note: Creating an account and using ChatGPT provides additional data to OpenAI, the company that created ChatGPT.

The following activities could be used to assist in reviewing how amenable an assignment is to being answered by ChatGPT:

- Paste an entire assignment brief into chatGPT and see what it produces
- After reviewing the result, add additional instructions into ChatGPT to try to finetune the results.
- Sometimes, poor results are due to entering insufficient prompts into ChatGPT rather than because ChatGPT cannot produce a satisfactory response to an assignment. Test this by adding further instructions derived from the assessment rubric, marking guide, and taught material. Try a variety of combinations of instructions and see if this improves the results.

Notes for testing ChatGPT results:

- For many assignments, ChatGPT will produce a reasonable-looking structure but will often lack precise details in some areas and may contain factual inaccuracies or non-existent references. In many cases, ChatGPT will ignore some instructions even with additional prompting.
- When reviewing assignment instructions, the instructions given to ChatGPT can be repeatedly updated in an attempt to produce a satisfactory answer. ChatGPT is able to follow simple instructions and provide answers that have a layer of correctness, but it is currently poor at contextualising responses. ChatGPT is a language model that provides responses based on statistical convergence rather than interpreting instructions in the way a human would. It is currently poor at ranking the importance of different instructions, or of prioritising specific elements, without human prompting.

2. Modify current assessment tasks or processes associated with an assessment

The following options could make it more difficult for AI technologies to produce satisfactory results, without requiring significant redesign:

- Ask students to use sources that require an institutional subscription within the assignment (ChatGPT does not currently have access to these).
- Modify questions to be more applied to each student's context (e.g. "discuss the relevance of this topic to your own, local situation").

- Require staged submission of an outline, research notes, drafts and final version
- Use more iterative processes of assessment such as student peer review which leads to revisions of the work.

3. Incorporate AI into assessment tasks

Use of technologies to produce text and other media as part of student submissions (or, indeed, as part of the process of developing such submissions) needs to be thoughtfully supported and/or limited, and clearly and openly acknowledged. Some examples of building AI tools into assessment design are given below:

- Allow students to use AI tools but require that they provide the prompt that they used and show via Track Changes (and comments) which changes they made to improve the output and why.
- Generate AI content and provide it to students for them to evaluate (with predefined criteria) and revise

4. Consider alternative assessment formats

Some formats are more difficult for AI tools to generate than others, with text currently the simplest. Similarly, some genres of writing are more difficult for AI technologies. Some ideas for tasks based on [alternative formats](#):

- Ask students to create oral presentations, videos, multimedia resources.
- Ask students to incorporate more personal reflections tied to unit concepts.
- Ask students to take part in live interviews (face to face or online). An interview or ‘viva voce’ can test a student’s understanding, gauging their ability to respond to questions and prompts in conversation. They can also be asked to elaborate or make connections between their responses to different questions. Bear in mind that live conversations are more difficult and anxiety-provoking for some students than others (although this is also true for other formats such as essays and exams).
- For more information about assessment types and formats, see [Choosing assessment tasks](#).

5. Assess collaborative learning processes

Rather than only assessing the final output or “product” of students’ work, it is possible to also assess the process through which they produce it. For example:

- In mathematics, students may be required to “show their working”, and the way they solve a problem can be more important than whether or not they arrive at a satisfactory answer.
- In art or architecture, sketches can be compiled into a folio to show stages of the journey towards producing a finished piece. Each item of evidence of the student’s journey can be annotated or can form the basis of reflective writing, generating further insight into how the student was thinking about their work and making connections between ideas.

In this way, assessors can see a continuity of development that is specific to each student and makes sense as a whole. It may be possible to include the use of AI technologies as part of this process (as long as it is appropriately acknowledged and reflected on) but the primary goal is to engage with the way the student thinks about the unit and their work.








Similarly, process-oriented assessment approaches can also include collaboration with other students, as long as the submissions are structured to clearly indicate each individual’s contribution and insights. An additional benefit is that these approaches to assessment can promote a culture of valuing the process of learning above the outcome (e.g. grades). It may create space for students to take risks and learn from their mistakes.

6. Target higher-order thinking

In designing an assessment, choices are made (whether explicitly or not) about which forms of knowledge are valued. These choices are informed not only by the goals of the educator and learning outcomes in a unit, but also by practical considerations such as the size of the cohort, how much time there is or what technologies and systems are available, accreditation requirements, etc. Often, it has been simpler and more efficient to focus on simpler assessment formats such as multiple choice exams and standardised essay questions that produce clear and familiar responses. However, AI technologies like ChatGPT are reshaping this landscape because of their capacity to generate satisfactory responses to those same kinds of questions. In response, it may now be

necessary to target forms of knowledge and expression that are more difficult for generative AI technologies - critical thinking, evaluation or creativity, for example.

The table below shows example assessments that are *currently* more or less difficult for ChatGPT (many of these examples are also applicable to other generative AI tools).

Difficulty	Task	Suggestion
 EASY	Closed answers (e.g. MCQ or short answer exam questions that ask students to define, list or reproduce)	ChatGPT is good at synthesising information to produce convincing answers to closed or abstract questions. Where feasible, consider alternative formats that align with unit learning outcomes.
 EASY	Essays without personalised application	ChatGPT can produce convincing text in many different genres and styles as requested (although it may find accurate referencing difficult). Modify questions to require personalised application. Combine with modifications such as assessing process or personal reflection.
 MEDIUM	Essays with personalised application	ChatGPT is poor at some kinds of personalised application or contextualisation of ideas. However, students may also find this type of writing difficult and scaffolding this kind of writing is important. Combine with modifications such as assessing process or personal reflection and scaffold students' abilities to write in this way.
 COMPLEX	Showing individual working process	ChatGPT does not reveal how it produces its outputs, so it cannot produce an account of its own process. Replicating that would be significant work for students. Consider introducing staged submissions where students explicitly respond to feedback on drafts, or where they are asked to submit a portfolio of the work they have done on the way to their final submitted work
 COMPLEX	Showing collaborative working process	Producing a misleading account of how students worked together to produce an output would involve significant work. Consider group tasks (with or without a final, individual submission) where students are asked to reflect on the process of completing the work and what they have learned from it.
 COMPLEX	Multimodal artefacts (e.g. a document that contains text + images) as creative response	ChatGPT currently only produces text. This text could be combined with other AI tools (e.g. DALL-E) but in many cases this requires thoughtful engagement with the material to compose something that is more than the sum of its parts. Consider asking students to produce images (e.g. an infographic) or video recordings as part or all of a response to a question. These should not just be reproducing text in a different format (e.g. a recording of reading text aloud) but should make use of the format as an alternative way of expressing ideas. Note: Multimodal work is often more ambiguous than text and may require more marker training and time. It may also require more technical support.
 COMPLEX	Interview / viva voce	Currently not possible for AI technologies to replicate. Consider asking students to participate in a live (synchronous) conversation (on campus or online) about what they have learned or about their submitted work. Note: This may require scheduling for each student, and may involve a greater time commitment for marking.

7. Review assessments to reduce risk

While targeting higher order thinking may reduce the risk of misuse of generative AI tools, it is not sufficient to only consider the kind of thinking required to produce a response to an assessment task (e.g. by targeting higher order categories of Bloom's taxonomy). For example, in some circumstances, it is possible for ChatGPT to represent or imitate each of these categories of learning (e.g. it can create new ideas by synthesising unusual combinations of information sources). However, there are other assessment characteristics that can be associated with higher and lower risk of inappropriate use of generative AI.

8. Apply formative assessment

In many higher education models, high stakes, heavily weighted summative assessment is the primary source of data about student performance and progress. Where the evidence used as a basis for judging student performance has been partly or wholly generated by technologies, this can lead to misrepresentation of student capability. Adopting a varied approach in designing an assessment regime, where data about student performance is gathered from formative and diagnostic tasks, can help to create a strong relationship with students, motivate them in their learning and provide information about whether summative assessment performances are consistent with other work.

While generative AI tools pose a significant challenge for some assessment formats when used for high stakes, summative assessment of learning (e.g. end of unit essays, etc.), they may be less problematic for alternative formats and lower stakes, formative assessment for learning.

Selecting a range of tasks with varied weighting can allow students to demonstrate learning in a lower-risk environment, giving you the opportunity to gauge your students' understanding while also lowering the incentive for them to rely on tools to generate responses.

Formative assessment that isn't weighted also allows for opportunities to check understanding and build a picture of student capability. Where formative assessment helps students prepare for summative assessment, it may also increase their confidence to engage authentically in those summative assessment tasks.

9. Programmatic, authentic and future-focused assessment

Programmatic assessment draws upon the notion of assessment for learning. Programmatic assessment involves a series of interconnected assessment methods that build upon each other. Rather than focus on assessing individual kinds of knowledge or skills using a single assessment method, it focuses on assessing broader attributes using multiple methods of assessment. Programmatic assessment supports a holistic assessment frame that is most likely to assure assessment tasks so that they are diverse, authentic, provide relevant evidence of student learning and minimise risk of inappropriate use of generative AI technologies. Research indicates that programmatic assessment has many benefits for students and educators, including increased confidence in assessment decisions, reduced emotional burden and early identification of at-risk students.

Authentic assessment focuses on assessing student learning against learning outcomes aligned with “real-world” contexts and industry expectations (including, but not limited to, work-integrated learning). Authentic assessment tasks require students to apply knowledge and skills in meaningful ways. Designing authentic assessments involves not just focusing on authentic tasks but also on educator judgement of the relevance of the tasks and how they can contribute to students' sense of belonging to a profession or society. Examples of authentic assessment can include case studies, exhibitions, reflective portfolios, and problem-based inquiries. As well as creating opportunities for valuable and relevant experiences, research also supports the role of authentic assessment (when done well) in improving engagement and preventing students from engaging in academic misconduct.

Future-focused or “sustainable” assessment advocates assessing the knowledge, skills, and attitudes that students would need throughout their lives beyond graduation. This kind of assessment focuses on developing the ways in which students learn to contribute to their capacities as lifelong learners.

A key principle of future-focused assessment is to develop students' capabilities to make evaluative judgments about what constitutes good work. Some examples of future-focused assessment tasks across a range of disciplines can be found on the Monash University Be Inspired pages.

Each of these assessment elements has the potential to reduce the risk of breaches of academic integrity in relation to generative AI technologies: By incorporating multiple assessment formats and targeting a range of different kinds of knowledge, programmatic assessment has the potential to capture learning that cannot be replicated by tools like ChatGPT. Students are less likely to engage in academic misconduct when they find assessment tasks authentic, personally relevant and more readily applicable to real-world scenario. Future-focused assessment can help students understand how they might learn to work with new technologies like ChatGPT in ways that contribute to their personal and professional development over time.

Guidance developed by the St Mary's AI Steering Group July 2023