

# Design Pedagogy and Generative AI

## White paper July 2023

DPxGenAI Working Group, Lancaster University School of Design

Paul Coulton, Naomi Jacobs, Joe Lindley, Dan Richards, Glynn Stockton, Roger Whitham (chair)

This white paper provides a briefing for members of the School of Design teaching team on Generative AI (GenAI) tools and their likely impact on teaching in the coming year.

It presents recommendations (below), an overview of the technology involved, examples of GenAI in use, expected challenges for our teaching, possible strategies to adapt our teaching in the short term and concludes with a recommendation for our strategic position on these technologies in the coming years as we develop our programme offerings.

## Recommendations

Based on our work April-June 2023, we have developed the following recommendations we believe all members of the teaching team should adopt for the coming teaching year. This comprises four practical recommendations that require specific actions for each module, and a fifth general recommendation for staff development.

### 1. Review modules for poor AI fit

Convenors should review assignments and course materials, and see if any of the strategies outlined in this document can be applied in teaching for the coming year. In particular, look for forms of assessment that invite or incentivise students to use AI tools in ways that are detrimental to their education by limiting their learning and development.


### 2. Foreground demonstrating understanding in assessment

With the advent of GenAI tools we must make more explicit how students should articulate their understanding in precise and comprehensive ways across all of our teaching. Reflection has long been a requirement of many assignments in Design, but students do not always understand how to reflect and what to include in reflective accounts of their work. We should include and discuss concrete examples of good reflective accounts produced by students, and help students to develop their reflective abilities across all levels of our teaching.

### 3. Introduce AI Appendices

We recommend that all assessments now require an AI Appendix detailing all uses of AI and automated tools in the production of the submission. This should be a transparent account detailing all of the tools employed, the prompts used and where appropriate a reflective narration of the role the AI tools played in the work. This will allow students to confidently use these tools, protecting them from accusation of undisclosed uses, and allow staff to appropriately reward them for their work.

### 4. Address AI tools at the start of each module

We should offer a briefing to students at the start of modules on our expectations and that of Lancaster University on the use of AI tools. We've agreed the following Principles of AI articulation: 

### 5. Learn more about common Generative AI tools

This white paper can only provide a partial summary and introduction to GenAI tools. This is a rapidly evolving area, and there is a lot of good reporting and education content on the web to help staff develop their understanding of these tools and their limitations. We've included links to some good starting points in this document.

## The School of Design's Principles of AI for Design Students

### Awareness

AI Tools are becoming integrated into everyday work, and you should learn about them just like any other tool. You need to know what they can do and what they cannot do, just like Email, Google Search and the Library.

### Creativity

As students, you need to be able to show clearly your intellectual and creative contribution to any project. When you graduate this will be even more important as every other graduate will have access to the same AI tools you do.

### Understanding

In this module and others, we are assessing work based primarily on the understanding you show as a student. AI tools can help people do all sorts of things, but within this module we are interested in helping you learn, and then assessing the learning you can demonstrate.

### Integrity

You must have integrity in your work and ensure it meets the university's strict standards for any material you submit. The words and images you submit for assessment must have been authored by you unless you reference another source or tool. This means acknowledging every source and every tool you use, even spelling and grammar checkers.

### Transparency

Be scrupulously honest about how you use AI tools. All assignment submissions should be accompanied by an AI Appendix that describes any uses you chose to make of AI tools, and where any AI-generated material appears in your work. This is essential to protecting yourself from any accusations of academic misconduct in the future.

# What are Generative AI Tools?

Artificial intelligence has been a topic of research for decades, but in 2022 powerful new AI tools became widely available - ChatGPT is the best known, but there are many others. In this document we call these 'Generative AI tools' (GenAI tools), because they can generate novel content (text and images) in response to simple human instructions. The 'tools' part also matters - many of the underlying AI technologies have been under development for years, but now they are available to anyone on any device and their abilities are improving extremely quickly.

Here we are identifying 10 things that make GenAI tools a disruptive new technology, different in nature from content authoring and search tools of the past:

## The underlying technology

### GenAI tools are based on models created from vast quantities of data

Current GenAI tools use models all 'trained' on very large quantities of data, some taken from the public internet, some created by experts. It takes a great deal of time and money to process this much data, but the result is a model that represents patterns in the training data.

### GenAI tools replicate the biases implicit in their training data

The models that underpin GenAI tools necessarily represent the data used to train them. Any biases (or inaccuracies) in the training data will carry through.<sup>1</sup> Training data may well include copyrighted materials and be months or years out of date.

### GenAI tools are more than just a model

Once created, a model is then further trained, pruned and shaped by humans to make it suited to a job.<sup>2</sup> For example, being a helpful chatbot. This stage is key: The creators of GenAI tools can introduce defaults, behaviours and limitations of what they can do.

### GenAI tools are designed to produce plausible rather than accurate outputs

GenAI tools include layers that transform predictions from the underlying model into an appropriate output for a given prompt. The result is that text is well-formed and images are well-composed, but there is not necessarily any underlying knowledge or requirement to be factually correct.<sup>3</sup>

## How you use them

### People interact via prompts

GenAI tools create content (text, images, video) in response to a prompt, such as a question or a description. Prompts are more than a search query – they can be long and detailed. Examples appear on the following pages of this document.

### Prompts can be iterative

Unlike a Google search, prompting a GenAI tool can be iterative, like a conversation. You can guide a GenAI tool to a result you want over a series of prompts, and this can be a creative, interactive, maybe even collaborative process.

### GenAI tools are input and output

A prompt can include extensive text or images. You can feed the output of one GenAI tool back into itself, or into another tool.

## Where they are headed

### GenAI tools are in their infancy

GenAI provides compelling new ways to interact. These may transform many of our current technologies and ways of working. How to create prompts is something people are still learning, and humans will get much better at using these technologies over time.

### GenAI tools will become mainstream

As these tools develop and become more refined and cheaper, they will become embedded in many other technologies and applications. GenAI will become as commonplace as autocorrection, predictive text or photo filters.<sup>4</sup>

### GenAI tools are constantly gathering more data from users

Each time a prompt or piece of content is uploaded, it is adding to the training data, and may be used by creators or users of the GenAI for purposes unknown. Consider your ownership of content you upload and how that might be at risk.<sup>5</sup>

1. Noble, S. U. (2018). Algorithms of oppression. In Algorithms of oppression. New York University Press.

2. <https://time.com/6247678/openai-chatgpt-kenya-workers/>

3. <https://simonwillison.net/2023/Mar/10/chatgpt-internet-access/>

4. <https://www.reuters.com/technology/chatgpt-sets-record-fastest-growing-user-base-analyst-note-2023-02-01/>

5. <https://www.technologyreview.com/2023/04/03/1070893/three-ways-ai-chatbots-are-a-security-disaster/>

# What can ChatGPT currently do?

OpenAI's ChatGPT is the best-known generative AI tool for producing and manipulating text. This is indicative of what 'Large Language Model' GenAI tools could do in the first half of 2023.

We start with text taken from the UKRI website:

UKRI's priorities for research and innovation are:

- plan for growth
- research and development (R&D) roadmap
- innovation strategy
- the R&D people and culture strategy
- integrated review
- levelling up white paper.

UKRI's strategy is underpinned by four principles for change:

- diversity
- connectivity
- resilience
- engagement.

We can then feed this text into ChatGPT along with the following instruction:

**Prompt**  
Turn these sentiments into a mission statement for a new research institute

**ChatGPT**  
UKRI's research and innovation approach combines a plan for growth, R&D roadmap, innovation strategy, R&D people and culture strategy, integrated review, and levelling up white paper. This holistic strategy is underpinned by four principles for change: fostering diversity within the research community, enhancing connectivity between stakeholders, ensuring resilience in the face of challenges, and engaging with partners to maximize impact.

We can ask for the same ideas in the form of a quote:

**Prompt**  
Present this statement as a quote from the director of the a design research institute

**ChatGPT**  
"As the director of our University's design research institute, we're fully committed to UKRI's priorities. We actively promote growth, drive innovation, and foster a diverse and resilient research culture. By integrating the R&D roadmap and connecting various stakeholders, our institute ensures engagement and collaboration to create real-world impact."

Then change the style of the writing for a different audience:

**Prompt**  
Explain this to a child

**ChatGPT**  
"Our university works together with a big group called UKRI to create new ideas and discoveries. We make sure that different types of people can join us, and we work well with others to solve problems and help make the world a better place."

ChatGPT can be used generate novel ideas:

**Prompt**  
Based on UKRI priorities and Lancaster University's expertise, generate 3 titles for research projects

**ChatGPT**  
Advancing Renewable Energy Systems: Integrating AI Technologies in Lancaster's Grid Infrastructure  
Enhancing Mental Health Support: Telehealth Solutions for Lancaster's Rural Communities  
Circular Economy Transition: Sustainable Waste Management Innovations in Lancaster's Urban Landscapes

Then generate more and more detail about them:

**Prompt**  
Consider the 2nd project. It will a 3-year £1.2 project made up of 4 work packages. List the work packages.

**ChatGPT**  
WP1: Scoping interviews and literature review  
WP2: Development and Testing of Telehealth Interventions  
WP3: Evaluation of Implementation and Outcomes in Rural Contexts  
WP4: Policy Recommendations and Stakeholder Engagement

Then yet more detail, feeding in further requirements and details about what is needed:

**Prompt**  
Write a full plan for WP2, considering these factors: The interdisciplinary team has expertise in psychology, psychiatry, computing and design; create a rationale for this work package; describe a suitable methodology that utilises the expertise of the project team; list of the expected outcomes

**ChatGPT**  
Work Package 2 (WP2) Plan: Development and Testing of Telehealth Interventions  
Rationale:  
The purpose of WP2 is to leverage the expertise of the multidisciplinary project team to develop and test innovative telehealth interventions that address the mental health needs of Lancaster's rural communities. With limited access to mental health services in rural areas, telehealth provides a unique opportunity to bridge this gap and improve mental health outcomes for this population. Moreover, the COVID-19 pandemic has further emphasized the importance of adopting remote healthcare solutions. By tapping into the combined knowledge of psychology, psychiatry, human-computer interaction, and design, WP2 aims to create effective, user-friendly, and sustainable telehealth solutions tailored for rural communities.

Methodology:  
To accomplish the objectives of WP2, the project team will adopt a three-phase, iterative process, beginning with the ideation phase. In collaboration with relevant stakeholders, the team will conduct brainstorming sessions and use participatory design methods to identify the specific needs and preferences of rural communities in Lancaster. This process will help generate ideas for the development of telehealth interventions, informed by the expertise of the team's psychology and psychiatry professionals.  
Next, the team will enter the prototyping phase, where the ideas generated will be transformed into tangible, testable technology solutions. The human-computer interaction and design researchers on the team will play a crucial role in ensuring that the telehealth interventions are accessible, user-friendly, and can be easily integrated into existing systems.

Finally, the project will move into the evaluation phase, where user experience testing and rapid iteration will take place. By conducting usability tests and soliciting feedback from a diverse sample of users, the team will iterate and refine the telehealth interventions. This process will involve ongoing collaboration between all team members to ensure

ChatGPT isn't good at some things though. 3 of these references are real, 2 are fictional 'hallucinations'

**Prompt**  
Given this research plan, list 5 relevant scholarly texts

**ChatGPT**  
Gustafson, D. H., & Shaw, B. R. (2018). Explicating the role of qualitative research approaches in designing and evaluating complex interventions: The case of the eHealth enhanced Chronic Care Model (eCCM). *Journal of the American Medical Informatics Association*, 25(4), 475-483.  
Crotty, M. (2018). *The foundations of social research: Meaning and perspective in the research process*. Sage Publications.  
Bashshur, R. L., Shannon, G. W., Bashshur, N., & Yellowlees, P. M. (2016). The empirical evidence for telemedicine interventions in mental disorders. *Telemedicine and e-Health*, 22(2), 87-113.  
Baur, C. (2018). *Designing and building telehealth programs*. Springer.  
Buntrock, C., Ebert, D. D., Lehr, D., Smit, F., Riper, H., Berking, M., & Cuijpers, P. (2017). Evaluating the efficacy and cost-effectiveness of web-based indicated prevention of major depression: Design of a randomised controlled trial. *BMC Psychiatry*, 17(1), 1-15.

# What can MidJourney currently do?

MidJourney is a well-known GenAI tool for generating imagery from text and image prompts. This is indicative of what 'Neural Style Transfer' GenAI tools could do in the first half of 2023.

First, examples from our experiments with Design assignment briefs:

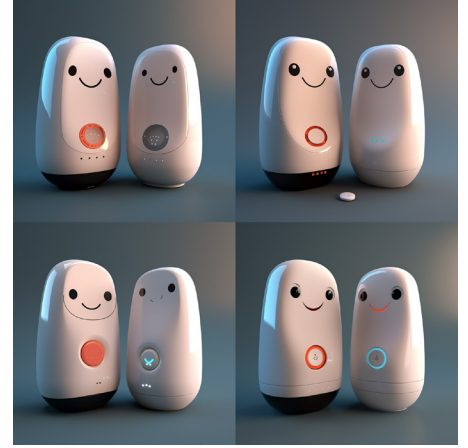
**Prompt**  
product design sketches for new emotion sharing device



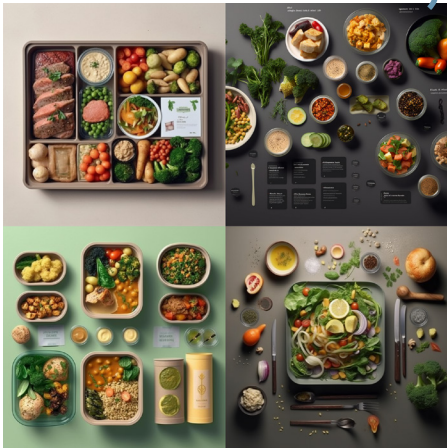
**Prompt**  
original product design concept for a emotion sharing device, detailed



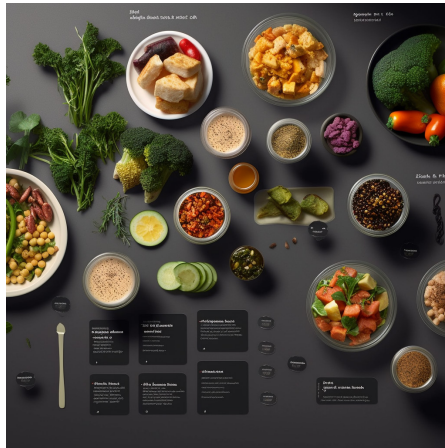
**Prompt**  
variations on option 1



**Prompt**  
design concept meal kit recipes on demand fresh slick --s 250



**Prompt**  
upscale option 2



**Prompt**  
design festival with slide photorealistic [+ an image of Lancaster Castle]



A few further examples taken from [r/MidJourney](#), showing how MidJourney can create fictional photographic imagery, and remix both the graphic style and the depicted content of imagery.

“Conservative Americans Seeking Asylum in Russia”



“Hieroglyphics as emoji”



“Mixing Architectural styles: German Bauhaus x Gothic”



# Challenges for teaching

Here we look at the potential interaction between the capabilities of GenAI tools and the forms and modes of teaching within the School of Design. We see the challenges for teaching as reaching far beyond assessment, as GenAI tools will have wide-reaching impacts on how students approach learning and how staff approach teaching in the immediate term.

## Assessment

### False evidence of learning

The most obvious application of GenAI tools is producing large quantities of text for assignment submissions. Tools like ChatGPT can be used to quickly produce text for essays and reports in response to complex prompts describing course content and assignment briefs. Detection tools cannot be relied upon to accurately identify AI-generated text or imagery, and benign uses of the technologies (like a grammar-improver) may trigger such tools unfairly.

### Increased assessment burden on staff

Staff may be increasingly asked to judge the provenance of student work, expanding the demands of academic judgement far beyond pre-2022 requirements. GenAI tools are designed to present content, factual or fictional, in plausible ways that require time and diligence to unpack. Staff may be required to adopt more resource-intensive forms of assessment (such as vivas) over existing approaches.

### Student vulnerability to academic integrity injustices

As GenAI tools become mainstream, students may be exposed to increased risk of injustice. Tools for detecting the use of GenAI tools have non-zero error rates, and there may not be opportunities for fair adjudication, or poor standards of evidence. For students who use tools to improve their written language the risk is likely to be higher.

### Disruption to assessment standards

We should expect the standard of student work to increase significantly if GenAI tools are used well, 'raising the bar' for assessment. It may be difficult for staff to fairly and consistently judge how good or poor a piece of work is. Students may not get the encouragement they need from successes or failures in their assessed work.

## Student Learning

### GenAI-mediated independent learning

Finding and synthesising textual information is quick and easy using tools like ChatGPT. These tools are great at providing bespoke summaries of topics, bespoke learning plans and examples, and may disincentivize more traditional ways of using texts and sources. Students will be able to quickly build up their general understanding of topics without engaging with detail, with critical commentaries or emerging issues.

### GenAI-mediated creativity

The synthetic capabilities of GenAI tools makes them great at generating and iterating ideas in both textual and visual forms. This could be a valuable part of a student's creative process, or it could replace creative thinking on the part of a student. Choosing a good topic for a project, generating ideas for a tutorial or asking a good question in a seminar could all be routinely externalised to GenAI tools. Students may choose to accept ideas generated by GenAI tools if they cannot develop or shape them.

### Inequalities of access to GenAI tools

Costs, risks, geography and skills will limit access to GenAI tools for some students, while others will have no such limitations. This will heavily disadvantage students lacking access to these tools.

## Teaching delivery

### Use of GenAI tools during teacher-student interactions

Students may use GenAI tools to inform or shape their interactions with staff. The same tools that could produce assignment submissions could also be used to compose emails to tutors, prepare for tutorials, suggest questions to ask during seminars or coach a student during tutorials.

### Peer effects

When collaborating on university work, or when interacting more generally, students will use GenAI tools in communicating with one another. As with staff, students may well lack the knowledge to identify this and may also lack the authority to call it out.

### Staff expertise gaps

Even for the most AI-literate team members it will be challenging to identify and appraise AI-generated material in student's work. As educators we are learning about these tools without being directly connected to the cultural knowledge students will develop and share about how to apply these tools.

## Unpredicted challenges

The impacts of GenAI tools are only partially understood and partially predictable. The complexity of GenAI tools is part of this, but so is the emerging knowledge of how to best prompt these tools. We should expect unexpected, novel applications of these technologies by students, and for knowledge of how to use these tools to quickly emerge and travel between students from the start of the year.

# Adjustment strategies for 2023/24

Based on our thinking, research and experiments to date, we have developed and reviewed a series of possible strategies for adjusting our teaching and assessment approach in 2023/24. These strategies will be more or less suited to particular modules and assignments, and each would need to be adapted to fit a particular module.

There is no 'magic bullet' here, but instead some starting points for a broader transformation in our programmes in response to GenAI tools becoming pervasive and mainstream. Any adjustments made must be clearly and explicitly articulated to students, with opportunities for discussion and feedback between tutors and student cohorts.

## We can't rely on automated detection of GenAI tools being used in assessment

In our experiments, we found that tools such as the [OpenAI classifier](#), [ZeroGPT](#) and [Turnitin](#) did not consistently identify AI-generated text. The risks of AI-generated text not being identified as such (false-negatives) are of concern, but so are circumstances when human-authored text is identified as AI (false-positives).<sup>1</sup> We also know that students may use GenAI tools to generate ideas or fragments (see [GenAI-mediated creativity](#)) they then build on or transform, or use them as coaches or planning tools, further confusing questions of 'unfair advantage' and provenance.

## Narrowed assessment topics and briefs

Requiring students to focus their work on specific sources, specific events or specific places will allow us to be more demanding in assessments in terms of demonstrating learning outcomes have been met. This in no way means that students' responses need to be less creative or diverse, instead we expect it to incentivise students to develop and differentiate their work. In contrast, briefs that are wide-open in terms of topic and which require only shallow engagement with a range of literature and case studies are likely to invite students to use and rely on GenAI tools.

## Rewarding explanation, rationale and contextualisation of ideas

Many assignment briefs in Design already require students to explain and justify design decisions in their work. Foregrounding and intensifying this aspect further, perhaps as the main requirement of an assignment will require students to thoroughly demonstrate their understanding of the choices made in their work. Students who generate or select material they do not fully understand or cannot fully contextualise their work will likely be apparent to assessors.

## Educating students about the limitations of GenAI tools

Students may well over-value the benefits (and hype) around GenAI tools and not appreciate their limitations. Helping students learn about what GenAI tools cannot do, and how they may limit their learning (and graduate profile) could be addressed in teaching.

## Stricter assessment forms

The evidence of learning required by some traditional forms of assessment cannot be directly produced by GenAI tools. Students cannot 'cheat' on the delivery of verbal presentations, paper-based examinations, physical practicals and vivas with GenAI tools, at least currently. However, these forms are considered more stressful by students<sup>2</sup>, often require more staff time, and are exclusionary of students who cannot perform well in such assessment formats.

## Portfolios of process

In Design we already use portfolios extensively to document the progression of a project. This format can be adapted to require students to thoroughly show the process taken to reach the endpoint of a project, ensuring that key elements of their thinking and practice are articulated explicitly. Reflective practice has long been a framing used across our modules, and this approach fits well with the need for students to thoroughly articulate their thinking, their practice and the link between the two.

## AI Appendices

To protect students and staff, students could be given free reign to use GenAI tools, provided they fully acknowledge such use in an 'AI Appendix' that accompanies each assessment.<sup>3</sup> This could function as an amnesty, allowing students to honestly describe their mundane and novel uses of these tools. Students making more use of tools could reasonably be expected to deliver higher-quality work, while those avoiding such tools can be assessed on that basis. This approach also will give us insight into how students are using AI tools and assess their impact on cohorts.

## Introducing GenAI tools and accompanying skills

For some modules, GenAI tools are or will become part of the practices we want our students to adopt. Here we should include these tools in taught content, making their limitations and capabilities clear as we would with any tool.

1. <https://www.turnitin.com/blog/ai-writing-detection-update-from-turnitins-chief-product-officer>

2. <https://teachingexcellence.leeds.ac.uk/wp-content/uploads/sites/89/2018/10/PUGHcompendiumcomplete.pdf>

3. [https://rmit.libguides.com/referencing\\_AI\\_tools](https://rmit.libguides.com/referencing_AI_tools)

# Suggested working strategy for the School of Design with respect to Generative AI

In addition to the [Recommendations](#) we offer in the short term at the start of this document, we have also developed a suggested working strategy for the School of Design in the medium to long term. We suggest that the below principles be adopted to guide our work to develop our taught offerings over the coming years.

1. We believe that as Generative AI is going to be embedded into the majority of the tools, and future tools, designers will use. Therefore its important the students gain experience of how to use these both creatively and responsibly.
2. To do this we need to ensure students are equipped to understand various manifestations of AI and the challenges they create in terms of their ethical use which will include how they are trained and managed.
3. Students will need to obtain experience with current Generative AI design tools and the potential benefits and pitfalls when used as part of their creative practice.
4. Students will also need skills and experience to show their intellectual, creative and designerly contribution to projects that make use of AI tools.
5. We should accept AI content within coursework submissions and we will treat it like any other source. If such content appears in students submissions it must be properly identified and referenced.
6. In the reflective sections of assignment submissions, or through the addition of an appendix, students will be expected to describe how they used the AI tools and what influenced their decisions, particularly in relation to text, and reflect on the value of their own creative contribution to the process.
7. We will continually monitor how our assignments could potentially be modified such that we place primary emphasis on creativity rather than the quality of produced artefacts This may include emphasis on more creative formats of submission rather than text and more staged evaluation in terms of refining designs and greater articulation of their decision making during a designs evolution.

## Further material

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### Personal Data in LLM training

<https://www.technologyreview.com/2022/08/31/1058800/what-does-gpt-3-know-about-me/>

### Bias in automated AI detection

<https://www.newscientist.com/article/2370080-tools-to-spot-ai-essays-show-bias-against-non-native-english-speakers/>

### Carbon footprint of GenAI

<https://theconversation.com/is-generative-ai-bad-for-the-environment-a-computer-scientist-explains-the-carbon-footprint-of-chatgpt-and-its-cousins-204096>

### Technical overview of ChatGPT (Karpathy, Open AI)

<https://www.youtube.com/watch?v=bZQun8Y4L2A>

### A Skeptical Take on the A.I. Revolution (Marcus & Klein)

<https://podcasts.apple.com/gb/podcast/the-ezra-klein-show/id1548604447?i=1000592835492>

### Suspicion, Cheating and Bans: A.I. Hits America's Schools

<https://www.youtube.com/watch?v=a65K1S6S-v0>

## Selected GenAI tools to try

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### Adobe Firefly

<https://firefly.adobe.com/> (log in via university account)

### GitHub Copilot

<https://github.com/features/copilot>

### Google Bard

<https://bard.google.com/>

### MidJourney

<https://docs.midjourney.com/docs/quick-start>

### OpenAI ChatGPT

<https://openai.com/blog/chatgpt>

### OpenAI DALL-E

<https://openai.com/dall-e-2>

### Runway Gen-2

<https://research.runwayml.com/gen2>

### Synthesia

<https://www.synthesia.io/>

# Introducing the AI Principles to Students

For academic year 23/24 we've agreed to use the below slide to introduce our Principles of AI for Design Students at the start of each module.

The School of Design's  
Principles of AI for Design Students

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## Awareness

**AI Tools are becoming integrated into everyday work, and you should learn about them just like any other tool.**

You need to know what they can do and what they cannot do, just like Email, Google Search and the Library.

## Creativity

**As students, you need to be able to show clearly your intellectual and creative contribution to any project.**

When you graduate this will be even more important as every other graduate will have access to the same AI tools you do.

## Understanding

**In this module and others, we are assessing work based primarily on the understanding you show as a student.**

AI tools can help people do all sorts of things, but within this module we are interested in helping you learn, and then assessing the learning you can demonstrate.

## Integrity

**You must have integrity in your work and ensure it meets the university's strict standards for any material you submit.**

The words and images you submit for assessment must have been authored by you unless you reference another source or tool. This means acknowledging every source and every tool you use, even spelling and grammar checkers.

## Transparency

**Be scrupulously honest about how you use AI tools.**

All assignment submissions should be accompanied by an AI Appendix that describes any uses you chose to make of AI tools, and where any AI-generated material appears in your work. This is essential to protecting yourself from any accusations of academic misconduct in the future.



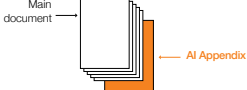
# Introducing the AI Appendix to Students

For academic year 23/24 we've agreed to use the below slides to introduce our the requirement to include an AI Appendix when students are briefed on assessments.

**The School of Design's AI Appendix**

All assignments submission produced for this module must be accompanied by an AI Appendix.

This should be a separate, clearly-identified section at the end of all documents you submit for assessment.



This is very like a References or Bibliography section that identifies sources you've used.

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**The School of Design's AI Appendix**

The AI Appendix should be a list of each time you chose to use an AI-based tool in your assignment work.

**AI Appendix**

Tool	Purpose	Prompt(s)	Outcomes in this document

For example:

- Generating ideas for a topic
- Creating images for a mood board
- Producing a plan for making a prototype
- Generating part of a composite image
- Removing distracting objects from a photograph
- Creating a template for a document
- Improving the quality of written language
- Summarising literature

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**The School of Design's AI Appendix**

The AI Appendix should be a list of each time you chose to use an AI-based tool in your assignment work.

As a student, it is your responsibility to know what tools you are using to produce your work and accurately describe them in submissions.

AI-based tools include:

- **Text improvement tools**  
e.g. Quillbot, Grammarly
- **Text generation tools**  
e.g. ChatGPT, Bard, Claude
- **Image generation tools**  
e.g. Midjourney, Dall-E

If in doubt about whether to list a tool, check with your tutor.

**AI Appendix**

Tool	Purpose	Prompt(s)	Outcomes in this document

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**The School of Design's AI Appendix**

The AI Appendix should be a list of each time you chose to use an AI-based tool in your assignment work.

For each time you use an AI-based tool, document:

- What tool you used
- Your purpose for using the tool
- Indicative prompt(s) or settings used
- Where the outcome of using the tool appears in your submission, if applicable.

- If you use a tool many times, separate out the different purposes you used the tool for.
- If you use many prompts for the same purpose, select indicative prompts that represent what you did with the tool.

**AI Appendix**

Tool	Purpose	Prompt(s)	Outcomes in this document
ChatGPT	Brainstorming product ideas	"Generate categories for IoT products"	None
Quillbot	Revising text throughout report	n/a	All text
ChatGPT	Creating a literature review plan	"List some key topics for a literature review on the Internet of Things"	Some headings in section 4.5

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**The School of Design's AI Appendix**

If you use no AI tools in your work, you must still include an AI Appendix, stating that no such tools were used.

**AI Appendix**

No AI tools were used in the project this document describes, or in producing any of the content within this submission.

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