Guidelines for Academics about Generative AI (GenAI) and its Usage in assessment.

Dr Shiva Sivasubramaniam, University of Roehampton, UK

1. Introduction

In response to the growing presence of generative AI (GenAI) tools in academic environments, and academic concerns about student misusing these tools in their assignments, this comprehensive guidelines for academics was developed to design assessments with clear instructions for students on the appropriate use of GenAI. These guidelines aim to balance the potential educational benefits of GenAI tools with the necessity to maintain academic integrity and prevent misuse.

Each assessment is expected to include explicit guidance regarding whether the use of GenAI is permitted or restricted. For permitted uses, students will receive clear instructions on how and when these tools may be applied to support their learning and research. Conversely, where the use of GenAI is not allowed, precautionary statements will be provided to highlight the risks of misuse, including potential academic misconduct penalties for unacknowledged or unauthorised use. This proactive approach helps to ensure that students fully understand the boundaries of using AI tools within their coursework and other assessments.

Rubrics will play a key role in reinforcing these guidelines by offering detailed, transparent criteria for how GenAI can or cannot be used in a given assignment. By mapping expectations around originality, critical thinking, and ethical considerations, these rubrics will help students grasp how their adherence to GenAI usage policies will impact their performance and grade.

This approach ensures that students are not only aware of the rules but also understand how responsible engagement with GenAI is evaluated in their academic work, thus promoting both compliance and academic growth.

Quick insights of Generative AI (GenAI)

GenAI refers to artificial intelligence that can create new content, whether it is text, images, music, or even videos, depending on the data it has been trained on. GenAI systems leverage large language models (LLMs) or large multimodal models (LMMs) to generate outputs. Here's a breakdown of these terms:

- **Artificial Intelligence (AI):** AI is a broad field focused on creating machines capable of performing tasks that typically require human intelligence, such as learning, problem-solving, and decision-making.
- **Generative AI (GenAI):** A subset of AI, GenAI is designed to generate new content, typically using advanced machine learning models trained on massive datasets. Popular examples include *ChatGPT* or *Midjourney*.
- **Chatbot:** A type of AI program specifically designed for interactive, real-time conversations. These are often powered by LLMs and can simulate **human-like** responses.
- **Large Language Models (LLMs):** AI models that generate text based on vast training datasets of language, allowing them to understand context, nuances, and generate coherent content.
- **Large Multimodal Models (LMMs):** These AI models can process and generate multiple forms of data, such as images, text, and audio, combining various modes of input and output.

2. General Uses of GenAI (examples)

- Support in translation and language services
- Automate engineering processes
- Building efficient workflows
- Data analytics
- Book-keeping

3. Examples of current uses of GenAI in Healthcare Research

- **Multi-OMICS approaches –** Combining genetic profiles, medical histories, and real-time health data.
- A more **precise, effective, and patient-centric** approaches
- Providing medical care that **improves outcomes and reduces adverse effects**
- **Personalised medicine –** drug development and predictive modelling
- **Data enhancements –** Image synthesis and analysis, clinical decision support, medical training, 3D-imaging etc.

4. Advantages of Letting Students Use GenAI in Assessments

- **Enhanced creativity and critical thinking:** GenAI can aid students in exploring novel ideas, encouraging innovation and divergent thinking.
- **Efficiency and time management:** Students can use GenAI to generate first drafts, summaries, or insights, allowing them to focus on refining their critical analysis and arguments.
- **Access to diverse resources:** GenAI tools can serve as research aids, helping students access a wide range of sources and perspectives in a short time.
- **Skill development:** Allowing GenAI usage prepares students for industries where AI integration is becoming standard, equipping them with necessary digital literacy and critical evaluation skills.
- **Support for students with language barriers:** For non-native speakers, GenAI can be an invaluable tool for improving writing clarity, grammar, and structure.

5. Disadvantages of Letting Students Use GenAI in Assessments

- **Over-reliance on AI:** Students may become overly dependent on AI-generated content and neglect the development of independent thinking and research skills.
- **Academic integrity concerns:** If not guided properly, students may misuse GenAI tools for plagiarism, misrepresenting AI-generated content as their own original work.
- **Shallow learning:** Relying too much on GenAI-generated outputs could discourage deep engagement with course materials, promoting surface-level learning.
- **Inaccuracy of AI outputs:** AI-generated content can contain factual errors or misinterpretations, which students may not always recognize.
- **Loss of creativity:** Instead of fostering creativity, AI use can sometimes limit original thought, as students may settle for AI-generated ideas without critical assessment.

It is time for changing Academic Attitudes

- **GenAI** has already started **challenging the ways the assessments are conducted.**
- Currently there are **no AI tools to effectively detect GenAI**
- **There is no 'one size fits all'** - Going back to invigilated assessments is not the remedy for GenAI usage.
- **Effective use of AI to personalise learning** and make it more engaging.
- **Aiding students with clear guidance** on acceptable and unacceptable use of GenAI is vital.

Providing the facts about GenAI to students

- **GenAI generated Content** is dependent on the **query** posted
- It lacks **transparency** and **accountability**
- Output depends on **training data and algorithm used**
- It lacks the capacity to 'understand' the **ethical implications**
- Subject to produce **inaccurate information**
- May subject to **copyright violations and** cannot (so far) generate **new ideas on its own.**

Table 1: The activities in which the generative AI is helpful

- **First drafts** of writing projects
- **Brainstorming** ideas
- **Explaining information** in straightforward ways
- **Summarising** information
- Helping to **write or debug** computing code.
- **Drafting ideas** and planning/structuring material.
- Generating **initial ideas for presentations**, images and visuals
- Helping to **improve grammar** and writing structure.
- **Experimenting** with different writing styles.
- Helping **to start a piece of writing** or other assignment.

Table 2: The activities in which the generative AI is not helpful
• **Reflective pieces** • **Summative pieces** of work that should revolve around student learning • **Contextual pieces** • **Assessing** which side of an argument has more strength or credibility • **Applying the knowledge** generated to the real world • **Critical analysis** using own understanding

Revealing Your Expectations in Assessments

- It is important for academics to provide clear guidance about their expectations for students using GenAI in their assessment answers.
- This information should be clearly explained in every assessment together with the rubrics for marking.
- **Dr Mike Perkins** and colleagues (Leon Furze, Mike Perkins, Jasper Roe, Jason McVaugh) have suggested following ("traffic light" system) that can be deployed to clarify whether the assessment expect GenAI incorporation or not. (Please see table 3; also see https://doi.org/10.48550/arXiv.2403.14692) for further details.
- Feel free to deploy any of these into your assessments but make it clear to the students about your expectations (see below in tables

Table 3: The possible range of expected GenAI usage in assessment

	NO AI	The assessment is completed entirely without AI assistance. This level ensures that students rely solely on their knowledge, understanding, and skills. **AI must not be used at any point during the assessment.**
2	**AI-ASSISTED IDEA GENERATION AND STRUCTURING**	AI can be used in the assessment for brainstorming, creating structures, and generating ideas for improving work. **No AI content is allowed in the final submission.**
3	**AI-ASSISTED EDITING**	AI can be used to make improvements to the clarity or quality of student created work to improve the final output, but no new content can be created using AI. **AI can be used, but your original work with no AI content must be provided in an appendix.**
4	**AI TASK COMPLETION, HUMAN EVALUATION**	AI is used to complete certain elements of the task, with students providing discussion or commentary on the AI-generated content. This level requires critical engagement with AI generated content and evaluating its output. **You will use AI to complete specified tasks in your assessment. Any AI created content must be cited.**
5	**FULL AI**	AI should be used as a "co-pilot" in order to meet the requirements of the assessment, allowing for a collaborative approach with AI and enhancing creativity. **You may use AI throughout your assessment to support your own work and do not have to specify which content is AI generated.**

Table adopted from https://doi.org/10.48550/arXiv.2403.14692

Many universities may adopt following scale to help clarify to both colleagues and students how Gen AI can be used in assessment

Level 1	No AI	AI can only be used to help with preparation for assessment e.g. exam preparation, in-class tests, practicals. The assessment itself will be done in controlled conditions and AI must not be used at any point during this.
Level 2	AI assisted	AI may be used but must be acknowledged and, where output is included, cited. This is the default position for coursework.
Level 3	AI required	AI will be used to meet the requirements of the assessment. Here students will be working in collaboration with Gen AI. AI use will be discussed as part of the work.

In any case, clear guidelines should be incorporated within every assessment to show this. Example guidelines are given below.

Respective rubrics for assessment are given in tables 4, 5 and 6.

As stated above providing clear assessment guidelines is important.

Assessment guideline that prohibits GenAI use

No AI Usage Allowed: In this assessment, the use of Generative Artificial Intelligence (GenAI) tools is strictly prohibited. The work must be entirely students' own, reflecting their personal knowledge, understanding, and effort.

Module Code:	**Module Name:**
Assessment task:	
Please fill	

Gen AI usage:	**NOT Acceptable**	**No AI usage allowed**

Attention to Students – Please Read

- **Original Work:** All content, analysis, and conclusions presented in your assessment must be created solely by you. The use of AI tools, including but not limited to text generation, data analysis, content summarisation, or problem-solving, is not permitted.
- If you have used any other references, received help, or relied on external sources, these must be properly cited, acknowledged, and referenced according to the academic standards provided.
- **Prohibited Tools:** You are not allowed to use any AI-based tools that generates or assists in producing text, images, or data for your assessment.
- **Personal Contribution:** Every part of your submission must reflect your independent thinking, research, and effort. This includes writing, data analysis, coding, and any other aspect of your assessment.
- **Verification:** Violating this guideline by using AI tools will be treated as a serious breach of academic integrity. If there are indications that generative AI tools have been used in your submission, the academics will undertake a thorough investigation to verify the authenticity of your work. This investigation may involve additional assessments, such as a viva voce (oral examination) and/or the initiation of academic misconduct procedures. Please ensure that your submission is genuinely your own work to avoid these actions.
- **Penalty:** Any suspected breach of academic integrity by using GenAI can lead to disciplinary action.
- Any other forms of references, received help, or relied on external sources, these must be properly cited, acknowledged, and referenced according to the academic standards provided. Failure to do so may be considered a breach of academic integrity, which can lead to serious consequences, including disciplinary action.

Guideline for assessment that allows limited GenAI use

In this assessment, students are permitted to use Generative Artificial Intelligence (GenAI) tools to assist with their work; however, their usage must be properly acknowledged and cited.

Module Code:	**Module Name:**
Assessment task:	
Please fill	
Gen AI usage:	**Acceptable** — *AI usage allowed but must be acknowledged and, where output is included, cited.*

Attention to Students – Please Read

- **You are reminded** that the work you submit must be entirely your own. While collaboration and discussion with peers can be valuable, the final submission should reflect your individual understanding and effort.
- If you have used any references, received help, or relied on external sources, these must be properly cited, acknowledged, and referenced according to the academic standards provided. Failure to do so may be considered a breach of academic integrity, which can lead to serious consequences, including disciplinary action.
- **Transparency:** You must clearly indicate where and how AI tools were used in your work. This includes providing details about which sections of the assessment were generated or influenced by AI.
- **Citation:** Properly reference the AI tool(s) used. Include the name of the tool, version (if applicable), and details about what specific task it was used for (e.g., text generation, summarisation, data analysis, etc.).
- **Personal Input:** Ensure that your personal understanding and analysis are evident in the submission. The use of AI should support your work, but not replace your own critical thinking, knowledge, and creativity.
- **Ethics and Integrity:** The over-reliance on AI or passing off AI-generated content that were not mentioned above as your own original work is a violation of academic integrity. Misrepresentation of AI use will result in academic penalties.
- ***Penalty:*** Any other forms of suspected breach of academic integrity, can lead to disciplinary action. Also, if you have used any other forms of references, received help, or relied on external sources, these must be properly cited, acknowledged, and referenced according to the academic standards provided. Failure to do so may be considered a breach of academic integrity, which can lead to serious consequences, including disciplinary action.
- If there are indications that generative AI tools have been inappropriately used in your submission, the academics will undertake a thorough investigation to verify the authenticity of your work. This investigation may involve additional assessments, such as a viva voce (oral examination) and/or the initiation of academic misconduct procedures. Please ensure that your submission is genuinely your own work to avoid these actions.

Guideline for assessment that expects the use of GenAI

In this assessment, using Generative AI tools is essential for completing certain tasks. However, students are only allowed to use the prescribed GenAI packages. Any use of other AI tools must be properly justified, acknowledged, and cited.

Module Code:		**Module Name:**
Assessment task		
Please fill		
Gen AI usage:	**Needed**	Following AI package can only be used with proper acknowledgement and citation. Usage of any other GenAI should be properly justified and acknowledged
Names of GenAI that can be used		
1. 2. 3.		

Attention to Students – Please Read

- **Required Tools:** You must use the GenAI tools listed above to complete the assessment. Their proper application is a critical part of this assignment.
- **Restricted Tools:** If you wish to use other GenAI tools beyond those prescribed, you must provide a clear rationale explaining why the additional tool was necessary. The usage must be acknowledged, justified, and properly cited.
- **Documentation:** You must provide a detailed explanation of how and where you used the AI tools in your work. This may include noting which sections were generated or assisted by the tool, and any modifications you made.
- **Citation:** For any GenAI tool used (whether prescribed or additional), provide a citation following the referencing guidelines. Include the name, version, and specific tasks where AI was employed.
- **Personal Contribution:** The output generated by AI must reflect your understanding and interpretation of the subject. AI tools should support the process, but you are responsible for the critical analysis, insights, and final decisions in the work
- **Ethical Use**: Improper use of unauthorised tools, failure to acknowledge AI assistance, or excessive reliance on AI-generated content will be treated as a breach of academic integrity.
- **Penalty:** Any suspected breach of academic integrity can lead to disciplinary action. Also, if you have used any other forms of references, received help, or relied on external sources, these must be properly cited, acknowledged, and referenced according to the academic standards provided. Failure to do so may be considered a breach of academic integrity, which can lead to serious consequences, including disciplinary action.
- If there are indications of inappropriate and/or unethical use of generative AI tools in your submission, the academics will undertake a thorough investigation to verify the authenticity of your work. This investigation may involve additional assessments, such as a viva voce (oral examination) and/or the initiation of academic misconduct procedures. Please ensure that your submission is genuinely your own work to avoid these actions.

Table 4: Rubric for Assessment in which the use GenAI is not allowed

Criteria	Exemplary (70-100%)	Proficient (60-69%)	Satisfactory (50-59%)	Needs Improvement (40-49%)	Unsatisfactory (0-39%)
Originality and Creativity	Displays exceptional creativity with unique ideas, well-supported by personal research and analysis.	Demonstrates originality, with solid argumentation and good support from research.	Some original thought present, though some arguments may lack depth.	Limited creativity; relies on basic ideas with little development.	Little originality: arguments are repetitive or copied from known sources.
Critical Thinking	Offers deep critical analysis and insight, demonstrating strong grasp of course material.	Good critical engagement with evidence of thoughtful analysis and application of concepts.	Sound level of critical thinking, with some engagement in analysis but lacks depth.	Minimal critical thinking, with shallow engagement with material and concepts.	No evidence of critical thinking; work reflects surface-level understanding.
Research and Evidence	Extensive, well-chosen research integrated seamlessly into the analysis.	Good use of research to support arguments, though some areas may lack depth.	Some research included, though not always well integrated or relevant to arguments.	Limited use of research; sources may be irrelevant or poorly integrated.	Little to no research evident; arguments are unsupported or based on poor-quality sources.
Writing Quality	Exceptionally clear, well-structured writing with few, if any, errors.	Clear writing with good structure; minor errors that don't detract from the argument.	Writing is generally clear, though there may be some grammatical or structural issues.	Writing lacks clarity or structure, with frequent errors that impede understanding.	Writing is unclear, disorganized, and filled with grammatical errors, making the work difficult to follow.
Ethical Considerations	Demonstrates strong ethical standards with proper attribution of sources and no evidence of GenAI usage.	No use of GenAI, though minor attribution or citation issues may arise.	Clear effort to avoid using GenAI, though some unintentional paraphrasing or unclear attribution may occur.	Ethical concerns arise, including unclear distinction between student work and external sources.	Clear violation of academic integrity, including unauthorized use of GenAI or failure to properly cite sources.

Table 5: Rubric for Assessment that expects limited GenAI usage

Criteria	Exemplary (70-100%)	Proficient (60-69%)	Satisfactory (50-59%)	Needs Improvement (40-49%)	Unsatisfactory (0-39%)
Use of GenAI for Research and Idea Generation	Skilful and responsible use of GenAI to support research, with clear evidence of human judgment and critical evaluation.	Appropriate use of GenAI with good integration of AI-generated content and personal analysis.	GenAI used, but with limited integration or discernment of AI vs. human contributions.	Over-reliance on GenAI, with minimal critical engagement or evaluation of AI-generated content.	Heavy reliance on GenAI without personal input or critique; AI outputs used uncritically.
Originality and Creativity	Demonstrates creative thought by expanding on AI-generated ideas with unique insights.	Displays a balance between AI-generated content and personal innovation.	Limited originality, with most ideas stemming directly from GenAI.	Minimal creativity, with little attempt to improve or expand on AI-generated content.	Little or no original thought; relies heavily on unaltered AI content.
Critical Thinking	Strong critical analysis of AI-generated content; demonstrates clear understanding and application of concepts.	Good critical engagement with AI outputs; offers meaningful evaluation of generated content.	Some evidence of critical thinking, though largely reliant on AI suggestions.	Limited critical thinking: AI outputs used without significant evaluation.	Little evidence of critical thinking; blindly accepts AI outputs.
Ethical Use of GenAI	GenAI used ethically, with clear attribution and acknowledgment of AI-generated content.	GenAI use is largely ethical, with minor attribution or acknowledg-ment issues.	Some issues with ethical use, including lack of proper attribution or unclear boundaries between AI and personal work.	Ethical concerns regarding GenAI usage, including misrepresentation of AI-generated content.	Clear violation of ethical standards, with AI outputs passed off as original work.
Accuracy and Relevance	AI-generated content is highly relevant, accurate, and integrated effectively with student's own research.	Most AI content is accurate and relevant, though some minor issues may arise.	Some inaccuracies or irrelevant content from GenAI that detracts from the work's quality.	Significant inaccuracies or irrelevant content; little to no attempt to correct AI errors.	Major inaccuracies throughout, with no effort to correct or address these issues.

Table 6: Rubric for Assessment that expects Prescribed GenAI Usage

Criteria	Exemplary (70-100%)	Proficient (60-69%)	Satisfactory (50-59%)	Needs Improvement (40-49%)	Unsatisfactory (0-39%)
Originality and Creativity	Displays exceptional creativity, effectively combining GenAI outputs with personal insights, resulting in unique ideas and deep analysis.	Demonstrates originality, integrating GenAI outputs with solid argumentation and personal understanding.	Some original thought present, though reliance on GenAI outputs may weaken depth of analysis or creativity.	Limited creativity; over-reliance on GenAI outputs with minimal personal contribution or original thought.	Little or no originality: work is largely dependent on GenAI outputs, with minimal or no personal insight.
Critical Thinking	Offers deep critical analysis and demonstrates exceptional understanding of both course material and GenAI tools used.	Good critical engagement with thoughtful integration of GenAI outputs and course concepts.	Some critical thinking present, though reliance on GenAI may limit deeper analysis.	Minimal critical thinking, with shallow engagement with material and over-reliance on GenAI outputs.	No evidence of critical thinking; over-dependence on GenAI, with limited or incorrect application of concepts.
Appropriate Use of GenAI Tools	Skilful use of prescribed GenAI tools, integrating their outputs seamlessly into the work with clear justification.	Good use of prescribed GenAI tools, though justification or integration could be stronger in certain areas.	Prescribed GenAI tools are used, though integration or justification is weak or incomplete in places.	Use of prescribed GenAI tools is minimal or poorly justified, with little evidence of their effective application.	Misuse of GenAI tools, failure to follow prescribed tools, or use of unauthorized tools without justification.
Research and Evidence	Extensive use of well-chosen research, integrated effectively with both GenAI outputs and original analysis.	Good use of research to support both GenAI outputs and personal arguments, though some gaps in depth.	Some research included, though its integration with GenAI outputs and arguments may be weak or incomplete.	Limited use of research; over-reliance on GenAI outputs, with sources poorly integrated or irrelevant to the argument.	Little to no research evident; work heavily relies on GenAI outputs with unsupported arguments.
Writing Quality	Exceptionally clear, well-structured writing with few, if any, errors, integrating both GenAI and personal contributions.	Clear writing with good structure; minor errors that don't detract from the argument, integrating GenAI outputs effectively.	Writing is generally clear, though there may be grammatical or structural issues and weaker integration of GenAI content.	Writing lacks clarity or structure, with frequent errors that impede understanding and poor integration of GenAI outputs.	Writing is unclear, disorganized, and filled with errors, making it difficult to follow, with GenAI outputs poorly presented.
Ethical Use of GenAI	Demonstrates strong ethical standards with proper acknowledgment of GenAI tools, and accurate attribution of external sources.	Proper attribution of GenAI tools and sources, though some minor issues with citation or acknowledgment may arise.	GenAI tools are acknowledged, though some citations or justifications may be unclear or incomplete.	Ethical concerns arise, including insufficient acknowledgment of GenAI usage or failure to justify additional tools.	Clear violation of academic integrity, including failure to properly cite GenAI usage or unauthorized use of non-prescribed tools.

This rubric emphasises not only originality and critical thinking but also the appropriate and ethical use of the prescribed GenAI tools, ensuring that students are evaluated on their ability to combine AI assistance with their own insights and research.

Conclusion

- Establishing clear guidelines and rubrics on the use of GenAI in assessments helps balance the benefits of these advanced tools with the importance of academic integrity and critical thinking.
- When allowing students to use GenAI, it is essential to emphasise ethical usage, critical evaluation, and originality while ensuring that rubrics reward meaningful student engagement over automated content generation. Conversely, when GenAI is prohibited, a rubric should stress the importance of independent thought, research, and analysis.