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UNIVERSITY OF THE WESTERN CAPE

FACULTY OF NATURAL SCIENCES

Guidelines for Use of Artificial Intelligence (AI) in Learning & Teaching

Document developed by the Faculty of Natural Sciences AI Task Team

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Foreword[1]

The rapid evolution of artificial intelligence (AI) in higher education presents both unprecedented opportunities and complex challenges. Recognising that generative AI can easily handle rote tasks (*e.g.*, drafting basic essays or solving routine problems), the Faculty of Natural Sciences at the University of the Western Cape has undertaken a rigorous, evidence-based process to rethink teaching and assessment practices and to prioritise higher-order learning—where critical thinking, problem-solving, and creativity are paramount.

Greater emphasis should be placed on activities that AI cannot replicate, for example:

- Hands-on laboratory experiments and fieldwork.
- Oral defences and live presentations.
- Reflective journals and evidence-based portfolios.
- Design-thinking challenges or interdisciplinary hackathons.

This document captures guiding principles, risk frameworks, pedagogical strategies, and detailed implementation plans for AI use by students and staff across the Faculty—grounded in transparency, equity, and academic integrity. We gratefully acknowledge the dedication and expertise of the AI Task Team members, whose collective effort has made this work possible:

- Jacques Joubert
- Admire Dube
- Nebo Jovanovic
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- Saleha Mohamedarif Suleman
- Dominique Anderson
- AJ Smit
- Dean Du Plooy
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- Siobhan Ernan Brigg
- Hitesh Harribhai
- Nthabeleng Mary Brown
- Michelle Lochner
- Natasha Ross
- Feedback from Faculty Departments

The AI Guidelines will remain a living document. The Faculty commits to adapting to new risks, tools, regulations, and user needs. Urgent changes may be communicated via Faculty

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[1] Generative AI tools were used as drafting and editing aids during the preparation of this document. This use complies with the Faculty of Natural Sciences' AI Guidelines for L&T, Version 1.0, August 2025.

Communications. This continuous improvement cycle ensures that our Faculty remains at the forefront of ethical and pedagogically sound AI use in higher education.

Definitions

For clarity, the following key terms are defined as they are used in this document:

- **Artificial Intelligence (AI):** Systems or tools that perform tasks traditionally requiring human intelligence by learning from data and making decisions. This broad category includes generative AI models (large language models like ChatGPT, image generators, etc.), machine learning algorithms, predictive analytics, and other computational tools that can automate or augment cognitive tasks or process textual information.

- **Generative AI:** AI models that produce new content (text, code, images, audio, etc.) in response to prompts, based on patterns learned from training data. For example, ChatGPT, Google Gemini, Anthropic Claude, DALL·E, and similar systems can create human-like text or other content. These tools are a focus of these guidelines due to their increasing use in educational contexts.

- **AI Literacy:** The skills and understanding that enable individuals to effectively use, interpret, and evaluate AI tools. AI literacy includes knowledge of how AI works, its limitations (*e.g.*, tendency to "hallucinate" or produce errors), ethical considerations and risks associated with AI use, and the ability to critically integrate AI outputs into one's work.

- **Academic Integrity:** Upholding honesty, trust, fairness, respect, and responsibility in all academic work, as defined by UWC's policies (*e.g.*, the UWC Plagiarism Policy). In the context of AI, academic integrity means not misrepresenting AI-generated work as one's own, citing sources (including AI tools) appropriately, and avoiding any deceptive practices related to AI use.

- **Data Privacy & Protection:** Ensuring that personal and sensitive data are handled in compliance with privicy laws and university regulations. In South Africa, this refers particularly to the Protection of Personal Information Act (POPIA) and UWC's data protection policies. Users must not expose private data via AI tools and should follow approved data handling procedures.

- **Responsible Use of AI:** Employing AI in a manner that is ethical, transparent, and aligned with intended learning outcomes. This concept includes acknowledging AI's contributions, understanding its limitations (*e.g.*, bias, lack of accountability), and using it in ways that do not harm others or violate rules.

- **Human-in-the-Loop Governance:** A collaborative model in which human experts remain actively involved in overseeing, validating, and intervening in AI-driven processes. This ensures that automated decisions or content generated by AI tools are reviewed, contextualised, and, if necessary, corrected by qualified individuals before final adoption or publication.

- **Prompt Engineering:** The practice of crafting, refining, and iterating input prompts to guide generative AI models toward producing accurate, relevant, and high-quality outputs. Effective prompt engineering involves understanding model behavior, leveraging clear and specific language, and employing techniques such as few-shot examples or structured templates.

- **AI Bias & Fairness:** The recognition that AI systems can reflect or amplify biases present in their training data or design, leading to unfair or discriminatory outcomes. Addressing bias and ensuring fairness requires regularly auditing AI outputs for demographic, cultural, or

other skewed patterns, selecting tools with transparent development histories, and applying mitigation strategies.

Comprehensive Manual for the Use of AI in the Faculty of Natural Sciences

1. Purpose & Scope

The Faculty of Natural Sciences at the University of the Western Cape includes nine Academic Departments and the School of Pharmacy. We offer a broad continuum of programmes, from undergraduate BSc degrees (including Extended Curriculum streams) to Honour's, Master's and Doctoral research degrees. Teaching and learning take place through for example; lectures, hands-on laboratory practicals, supervised fieldwork, and small-group tutorials—each supported by rigorous assessment and quality-assurance processes. In this environment, artificial intelligence (AI) tools are rapidly emerging as powerful enablers for both educators and learners.

This manual builds on UWC's institutional AI policies to provide Faculty-specific guidance that is ethical, practical, and aligned with our commitment to transparency, equity, and academic integrity (Figure 1).
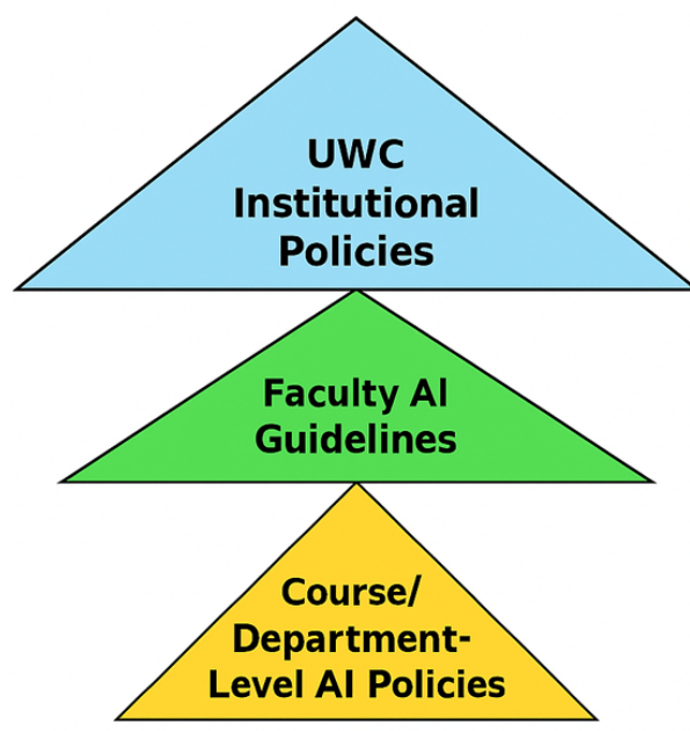
The AI Usage Policy Pyramid comprises three governance tiers at UWC: institutional policies (*e.g.*, POPIA, Plagiarism and Assessment Regulations, UNESCO/OECD standards) at the apex; Faculty of Natural Sciences AI guidelines—defining roles, accountability and practical toolkits—in the middle; and course/Department-level policies—specifying assignment protocols, disclosures and grading rubrics—at the base.

2. Aims

Below are the Faculty's Aims for AI Integration—our strategic objectives for ensuring ethical, equitable, and effective use of AI across teaching, learning, and assessment (Figure 2).
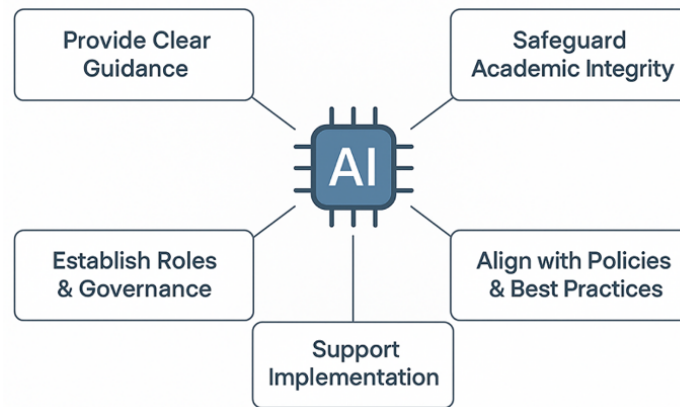
Faculty Aims for AI Integration.

2.1 Provide Clear Guidance

Offer Faculty-specific direction on the ethical and pedagogically sound use of AI in all teaching, learning, and assessment activities. This includes outlining acceptable uses of generative AI (like ChatGPT, DeepSeek, DALL·E), predictive analytics, automated grading systems, and other emerging AI applications in our classrooms, laboratories and in the field.

2.2 Safeguard Academic Integrity

Ensure AI's benefits are harnessed without compromising academic integrity. These guidelines align with UWC's Plagiarism Policy and emphasise transparency, attribution, and honesty in any AI-assisted work. Students and staff must acknowledge AI contributions, thereby upholding trust in our academic outputs.

2.3 Align with Policies & Best Practices

Ensure consistency with relevant UWC policies (*e.g.*, AI Guidelines, Plagiarism, Data Protection/POPIA) and draw on global best practices (such as UNESCO's guidance on AI in education and OECD's recommendations) to reflect international standards and the realities of the Global South.

2.4 Establish Roles & Governance

Define clear roles, responsibilities, and governance structures for AI integration at Faculty and Departmental levels. Accountability mechanisms (committees, nodal persons, etc.) will ensure ongoing oversight, review, and updates to the guidelines as technology and needs evolve.

2.5 Support Implementation

Provide practical tools—checklists, templates, sample policies, and case studies—to help embed these guidelines in everyday practice. The document includes appendices with quick-reference "Quick AI Ethics Checklist," example disclosure statements, and a prompt log template, to facilitate implementation at the course and Department level.

3. Principles for AI Use

The principles outlined here underpin all AI-related activities within the Faculty of Natural Sciences (Figure 3). They ensure that our approach to AI use aligns with UWC's values and needs. Together, these principles promote an equitable, ethical, and pedagogically sound use of AI—deeply embedding it within the University's framework for maintaining high standards of academic integrity.

3.1 Academic Integrity & Citation

All AI assistance in academic work must be disclosed and cited. Students should indicate which tools were used and for what purpose (*e.g.*, "ChatGPT assisted in grammar editing of Section 3"). Staff must similarly be transparent about AI use in teaching (*e.g.*, noting if quiz questions were generated with AI). Assessments are designed under the assumption that AI may be used; we focus on tasks requiring genuine understanding and pair this with an expectation of complete honesty about any AI involvement. Unacknowledged AI use is treated as plagiarism.

3.2 Equity & Inclusion

AI integration must not disadvantage any group of students or staff. We recognise that digital access and AI literacy vary widely, especially in a resource-diverse context like South Africa. When implementing AI-based activities, instructors must provide alternatives or support for those with limited access or skills—for example, campus-licensed tool access, offline templates, or in-lab workshops. Our goal is to harness AI to enhance learning for all, not only those with personal devices or high-speed internet. We also remain vigilant about biases in AI systems—users should critically evaluate outputs for gender, cultural, or racial bias, and the Faculty will favour tools assessed for fairness in a Global South context.

3.3 Human Oversight & Accountability

All users of AI (students and staff) must take ownership of their AI use by keeping an auditable record of AI-assisted tasks. This includes saving time-stamped prompt histories for all assessments so that, if a lecturer or supervisor requests them, they can be produced in full. Failure to supply these logs when required may constitute a breach of academic integrity subject to Faculty misconduct procedures. For every AI-assisted action, a responsible human party must be identifiable—humans, not algorithms, are ultimately accountable for outcomes, and any decision or content arising from AI must be approved and overseen by a person.

3.4 Data Privacy & Security

Do not enter personal, sensitive, or confidential information (*e.g.*, student records, patient data) into public AI services. Comply with POPIA and all UWC Data Protection Policies; use only approved, secure platforms for institutional data.

3.5 Pedagogical Soundness & Quality Assurance

Use AI to enhance learning goals—brainstorming, draft refinement, data analysis—while preserving core critical thinking and creativity. If AI outputs begin to dominate any assignment, pause and reintegrate your own insights, then seek feedback from your lecturer. Always cross-verify AI-provided facts, data, and references against authoritative sources; confirm that every citation exists and supports the claimed information.

3.6 Learner-Centric Pedagogy

AI should augment—not replace—human teaching and learning. While AI can automate routine tasks (*e.g.*, drafting basic essays or solving formulaic problems), it cannot replicate the real-world, hands-on experiences or creative reasoning that form the heart of authentic learning.

- **Freeing Time for Engagement:** Lecturers can deploy AI to handle administrative tasks (such as grading routine quizzes), thereby creating space for richer interactions: mentoring sessions, guided lab work, and in-depth project consultations.

- **Supporting Deeper Inquiry:** Students use AI as a tutor or study aid—asking for concept clarifications or alternative explanations—but not as the author of their work. They are also educated on AI's benefits and risks to understand appropriate use.

- **Maintaining Oversight & Quality:** Any AI-generated content used in teaching or assessment must be reviewed by a human for accuracy, relevance, and alignment with learning objectives.

We keep learners at the center—tools are there to support our authentic, inquiry-based approach (hands-on experiments, reflective journals, design-thinking projects), not to short-circuit it. Continuous human oversight ensures that AI integration reinforces, rather than undermines, the genuine understanding and scientific skills we prioritise.
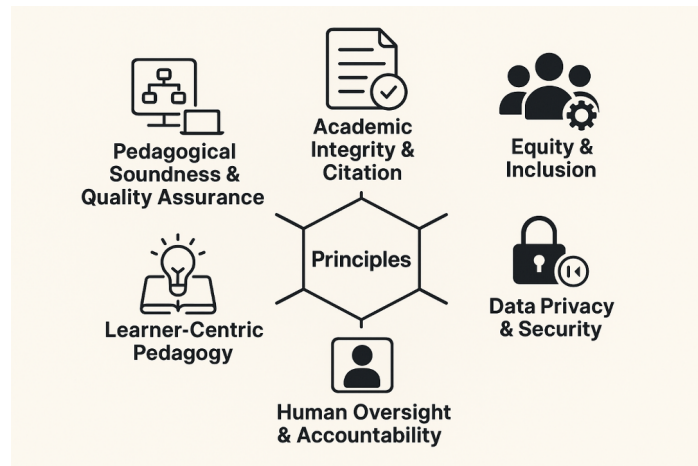
Infographic presenting the six core principles for AI use in the Faculty of Natural Sciences.

4. Governance & Roles

Effective implementation of these AI guidelines requires clear governance and active roles for various stakeholders within the Faculty and the University at large (Figure 4). The following structures and roles are established:

Faculty of Natural Sciences AI Governance Framework.

4.1 Faculty of Natural Sciences Learning & Teaching Committee (SciLT Committee)

The SciLT Committee will serve as the primary oversight body for the AI guidelines. Augmented by AI Task Team members or advisors as needed, it oversees guideline implementation, reviews emerging AI trends, and recommends updates or policy changes. "AI in L&T" will be a standing

agenda item to evaluate guideline effectiveness and consider new developments (*e.g.*, breakthrough AI tools, emerging risks, Departmental feedback). The SciLT Committee is responsible for formally approving any revisions to the guidelines. In collaboration with ICS and CIECT, it may also approve new AI tools for instructional use and interpret these guidelines in complex cases.

4.2 Centre for Innovative Education & Communication Technologies (CIECT)

The CIECT plays a key support role to provide training, resources, and expert support for integrating AI into pedagogy. This includes developing and delivering the mandatory "Ethical AI Use" course for students and staff, organising workshops on AI tools (*e.g.*, prompt engineering, tools for specific disciplines), and creating online resource materials. CIECT specialists will also assist lecturers in redesigning curriculum or assessments to accommodate AI (upon request), and in evaluating ed-tech tools for pedagogical value. In essence, CIECT ensures that staff and students have the necessary capacity and guidance to use AI effectively and in line with best practices.

4.3 UWC Library

The UWC Library will support the AI Guidelines by curating and maintaining a central repository of AI-related resources, best-practice guides, research articles, and learning materials. Librarians will deliver information-literacy workshops focused on ethical AI scholarship, including effective AI-augmented literature searches, citation of AI-generated content, and data management in line with POPIA. The Library will also liaise with CIECT to integrate these resources into the AI Hub and iKamva, ensuring that students and staff have seamless access to authoritative guidance on AI use and research methodologies.

4.4 Information & Communication Services (ICS)

The University's IT services unit (ICS) will collaborate closely to maintain the technical and policy environment for safe AI use. ICS is tasked with vetting and approving AI platforms for use in the Faculty (ensuring tools meet security and privacy standards), maintaining any infrastructure required (such as computer labs with access to AI software or providing institutional licenses/API access for certain AI services), and offering technical support. ICS will also monitor for cybersecurity or data protection issues arising from AI (*e.g.*, if a certain tool is found to be storing data offshore without consent). Vendor agreements and contracts for AI software should be reviewed by ICS (and Legal where needed) to ensure compliance with POPIA and university data policies.

4.5 Departmental Nodal Persons (AI Champions)

Each Department or School within the Faculty will appoint a representative (*e.g.*, a Faculty member or senior tutor) to act as the Departmental AI Champion or nodal person. These individuals will be the primary point of contact for AI-related initiatives in their Department. Their responsibilities could include:

Table 1: Departmental Responsibilities and Activities for Implementing Faculty AI Guidelines.

Responsibility	Activities
Guideline Implementation	Incorporate AI policy statements into course outlines and Departmental documents.
Training & Discussion	Organise Department-level workshops, seminars, or brown-bag sessions on AI tools and ethical use.
Feedback Collection	Gather input and concerns from both staff and students regarding AI use in teaching and learning.
Reporting & Communication	Present AI Task Team updates at Departmental meetings and relay feedback through the Departmental L&T representative.
Contextualisation & Case Studies	Develop discipline-specific examples or case studies (*e.g.*, AI in coding vs. AI in essay writing) to illustrate best practices.

Responsibility	Activities
Scholarship & Research	Encourage and support Departmental research on AI in pedagogy for publication and integration into teaching practice.

4.6 Academic, Technical, & Administrative Staff

All Faculty and support staff share responsibility for modelling and enabling responsible AI use: academic staff (lecturers, tutors, supervisors) must transparently disclose any AI assistance in course materials, assessments, or communications, rigorously review and validate AI-generated content for accuracy and alignment with learning outcomes, and integrate AI literacy and ethics into their pedagogy; technical staff (ICS personnel, educational technologists, lab technicians) must ensure only approved AI platforms are deployed, maintain and troubleshoot AI-enabled infrastructure and licenses, and monitor security and privacy compliance; and administrative staff (programme coordinators, quality assurance officers, registry personnel) must embed AI-use policies into course outlines, handbooks, and official communications, track tool approvals and training records, coordinate consent and accommodation processes, and manage incident reporting—all working together to uphold integrity, privacy, and educational excellence.

4.7 Students & Student Representatives

Students are both the beneficiaries of these guidelines and active partners in their evolution. Students (through the Faculty Student Council or other bodies like the SRC) will be involved in providing feedback on AI use issues. Student-led initiatives—such as AI clubs or peer mentoring groups—are encouraged (and can coordinate with CIECT or Departments) to promote AI literacy and share experiences.

Governance of AI in the Faculty is a collective effort: the formal committees and offices provide structure and oversight, while Departments and individuals carry out the practices on the ground. This multi-level involvement ensures the guidelines are not static rules on paper, but a living framework that is reviewed, enforced, and refined through ongoing collaboration. We also anticipate that this governance approach will keep our Faculty agile—able to respond quickly to new challenges or tools (with input from all stakeholders) and thus remain at the forefront of responsible AI integration in higher education.

5. Student Guidance

This section describes specific expectations, rules, and support structures for students (undergraduate and postgraduate) when using AI in their learning and academic work. The goal is to empower students to use AI as a beneficial resource while maintaining integrity and ensuring a fair learning environment.

5.1 Developing AI Literacy

To participate effectively in an AI-enhanced academic environment, students need a baseline of knowledge about AI tools and their ethical use. The Faculty implements a number of measures to develop students' AI literacy:

- **Core AI Literacy Module:** All students are required to complete the "Ethical Use of AI" module via CIECT. This training covers AI basics, the capabilities and limitations of generative AI, potential pitfalls like hallucinations or bias, and the ethical obligations when using AI. It also familiarises students with UWC's policies on academic integrity in the context of AI (Link: Ethical Use of AI).

- **Continuous Learning:** Beyond the initial module, students should engage in ongoing learning. CIECT and the Faculty (through Departments) will offer lectures, workshops, and

tutorials focusing on specific AI tools or advanced topics. These may include classroom discussions emphasising critical evaluation of AI outputs.

- **Critical Reflection Practices:** Students will be guided to habitually reflect on and document their AI usage. This may involve keeping a prompt journal or log where they record the prompts given to AI and how they used the responses. Coursework might incorporate reflection essays as well.

- **Resources:** Students have access to curated materials such as UWC's Institutional AI Guidelines, UNESCO's guidance on AI in education, and open AI educational resources curated and maintained via the UWC Library. Departments may also provide lists of AI tools relevant to their fields. See this UWC Library Resource on Prompt Engineering.

5.2 Acceptable Use & Disclosure

The following guidelines explain what constitutes acceptable versus unacceptable AI use in student work, emphasising the importance of disclosure:

- **Permission & Clarity in Assignments:** Students may only use AI tools for an assignment if the lecturer or instructions explicitly allow it. If unclear, students must ask. The default assumption is that AI is not permitted unless stated otherwise.

- **Extent of AI Contribution:** AI should serve as a supporting tool rather than the principal author—your own ideas, analysis and writing must remain the core of the assignment, with any AI-generated material used sparingly, clearly indicated, and properly cited.

- **Mandatory Disclosure Statements:** Students must disclose any use of AI in their submissions. Sample disclosure: "This assignment used ChatGPT to generate an initial draft of the introduction, which I then revised."

- **Citation of AI Content:** If AI-generated content substantively contributes to a submission, it must be cited. For example: (ChatGPT, 2025, prompt: "…") with a corresponding entry in the references. See Full citation guide.

- **Consequences:** Where misuse of AI is identified—whether through self-disclosure, assessment evidence, or other credible reports—it will be treated as a breach of UWC's academic integrity policy. Minor, first-time incidents may be addressed through educational intervention, but serious or repeated cases will be subject to formal disciplinary action in accordance with institutional procedures.

Table 2: Examples of Prohibited AI Practices and Their Rationale. The following are illustrative examples, not an exhaustive list.

Examples of Prohibited AI Use	Reason
Submitting AI-generated work as original without disclosure	Undermines transparency and breaches academic integrity by hiding external contributions.
Using AI during exams or tests	Compromises assessment fairness and violates exam conditions.
Entering confidential or unpublished assessment content into public AI tools	Exposes sensitive information and infringes on data-privacy regulations (*e.g.*, POPIA).
Sharing personal data with AI tools without anonymisation or consent	Violates individual privacy and UWC's data-protection policies.

Examples of Prohibited AI Use	Reason
Using AI to impersonate another student or generate false participation (*e.g.*, forum posts, attendance)	Constitutes dishonesty and fraudulent misrepresentation of engagement.
Employing AI to fabricate or falsify data in research or assignments	Erodes research integrity and produces unreliable or misleading findings.
Relying on AI-generated citations without verifying source accuracy or existence	Risks propagation of misinformation and unsupported claims.
Using AI tools to circumvent plagiarism-detection systems	Defeats institutional safeguards designed to uphold original work.
Submitting AI-generated peer reviews or feedback in group or assessment settings	Undermines the value of genuine peer evaluation and distorts collaborative learning processes.

5.3 Guiding Use Cases for Students

To illustrate how students can engage constructively with AI, here are positive, permitted examples (when allowed by the lecturer or course guidelines):

- **Research & Literature Review:** Use AI to identify keywords, generate search terms, or clarify and explain core concepts—always verify information and sources yourself.

- **Writing & Editing Assistance:** Use AI for grammar checks or structure suggestions. Final wording must be your own, and AI use should be disclosed.

- **Coding & Data Analysis:** Use AI coding assistants for productivity support (for example, auto-completing code snippets or suggesting functions), but always ensure you fully understand and verify any generated code or outputs before integrating them into your work.

- **Translation & Transcription:** AI can assist with language translation or transcribing audio. Proofread and verify for accuracy.

- **Study Aids & Tutoring:** Use AI as an interactive tutor or quiz generator to support self-study. Cross-check responses.

- **Creative Projects & Visualisation:** Generate ideas, visualisations, or simulations with AI where appropriate and disclosed.

- **Peer Review Simulations:** Ask AI to play the role of a journal manuscript reviewer or thesis examiner for feedback. Always critically evaluate any AI-generated suggestions before incorporation.

5.4 Rules for Exams & Invigilated Tests

Exams require special attention due to their high-stakes nature and the risk of AI misuse via covert devices or unauthorised access.

- **No AI or Devices Allowed:** During invigilated exams, students are strictly prohibited from accessing AI tools or unauthorised digital resources. All electronic devices (phones, tablets, smartwatches, earbuds, etc.) must be powered off and stored away before the exam begins. Only explicitly approved calculators or devices may be used.

- **Physical Integrity Measures:** Within Faculty seating scrambles, identity checks can be implemented. Students should be aware that advanced invigilation technologies may be used to maintain fairness.

- **Accommodations:** Students with approved accommodations (*e.g.*, for disabilities) who require assistive technology must arrange this in advance with the Office for Students with Disabilities. These devices will be vetted to ensure no AI functions are accessible unless specifically allowed.

- **Consequences of Academic Misconduct:** Using AI or any unauthorised tool during an assessment constitutes a serious breach of academic integrity. Typical penalties include receiving a zero for the assessment and referral to the University disciplinary process.

- **Device Checks & Forensics:** Invigilators may inspect devices brought into the exam venue. Random device checks may occur. In exceptional cases, the University may conduct forensic reviews to confirm misuse.

- **Exam Design Considerations:** Lecturers are encouraged to design exam questions that are less susceptible to AI assistance. Open-ended questions, multi-part problems, and context-specific scenarios help reduce the likelihood of generic AI responses being effective.

6. Staff Guidance

This section is intended for academic staff (lecturers, tutors, lab instructors, supervisors) and relevant support staff. It provides recommended practices for integrating AI into teaching, assessment, and supervision in ways that uphold academic standards and enhance student learning.

6.1 Professional Development for Staff

To support effective AI integration, the Faculty will promote staff development via:

- **Training Workshops:** Regular sessions by CIECT will familiarise staff with AI tools, prompt engineering, and best practices for pedagogy. These workshops will also cover bias mitigation, data privacy, and responsible integration. See Ethical Use of AI and the UWC Library's Generative AI Resources for Learning, Teaching and Research.

- **Best Practice & Scholarship of Teaching and Learning:** We will cultivate communities of practice and encourage staff to conduct and publish research on AI-enhanced pedagogy. Dedicated forums and mini-conferences will showcase case studies, promote peer-reviewed scholarship, and build institutional knowledge around effective AI use.

- **Guidelines for Staff AI Use:** Staff should follow the same ethical principles as students. For example, if AI is used to draft an email or exam question, the staff member must review it for quality and be transparent when appropriate.

6.2 Course Design & Delivery

When designing courses and learning activities, staff should proactively consider AI's presence and how to integrate—or guard against—its use:

- **Align AI Use with Learning Outcomes:** Review your module outcomes and determine whether AI could help or hinder their achievement. Design tasks that require conceptual understanding and critical thinking, even when AI tools are available.

- **Reference AI Guidelines in Course Descriptors:** Ensure your course outline explicitly cites these Faculty AI Guidelines so students know where to find overarching policies and expectations.

- **Provide Explicit AI Usage Instructions:** For each assessment, clearly state when AI tools are permitted, restricted, or prohibited, and specify the acceptable level of AI contribution.

- **Use Standard Template Language:** In course outlines, define when and how AI may or may not be used.

- **Incorporate AI into Learning Activities:** Create exercises that intentionally involve AI—for example, having students compare their own responses to AI-generated outputs or critically evaluate AI-produced content.

- **Label AI-Generated Materials:** If you use AI to generate teaching materials (*e.g.*, slides, quiz questions), clearly mark them as such and review all AI-generated content for accuracy.

- **Prepare for Independent Student AI Use:** Assume students may employ AI outside your instruction. Counter potential misuse by including personal engagement elements—oral presentations, in-class assessments, or reflective components—that reinforce mastery.

6.3 Assessment & Feedback

Assessment is one of the areas most impacted by generative AI. Staff need to ensure assessments remain fair and valid measures of student learning in an AI-enabled environment. Simultaneously, AI can be leveraged to improve assessment practices, such as providing efficient feedback. Key strategies include:

- **Authentic Assessments:** Prioritise assessments that require original thought, personal reflection, hands-on work, or unique student experiences. Examples include project-based assignments, case studies tied to local data, oral exams, and practical lab work. Design tasks at higher levels of Bloom's taxonomy (analysis, evaluation, creation).

- **Process Documentation:** Make part of the grade dependent on documenting the process, not just the final result. Require students to submit prompt logs, drafts, or reflection notes. These helps demonstrate engagement and can reveal whether AI was used meaningfully and ethically.

- **Interactive or Oral Components:** Use viva voices, presentations, or class discussions to verify student understanding. Oral follow-ups can deter misconduct and promote deeper learning. Even brief interviews or presentations can reveal the depth of a student's knowledge.

- **Assessment Design Checklist:** Use a structured checklist to strengthen assessment integrity—incorporating personalised, context-driven tasks, varied question parameters, and a mix of written and oral components to deter generic AI responses.

- **Use of AI in Grading:** AI tools may assist with grading or drafting feedback, but human oversight is essential. Staff must review AI-generated feedback for fairness and clarity. Disclose substantive AI use in feedback if appropriate (*e.g.*, "Feedback generated with AI assistance and reviewed by the lecturer").

6.4 Data Handling & Tool Selection

Many AI tools are cloud-based and involve uploading user data, which raises issues around security and privacy. Staff must take responsibility for ensuring data protection in all AI-related teaching practices:

- **Data Minimisation:** Input only essential data into AI tools. Avoid entering student names or grades into external systems unless anonymised. Where possible, use fictitious or anonymised examples when working with AI.

- **Cloud vs On-Premise Tools:** Prefer UWC-hosted or offline tools for sensitive activities. These provide greater data control and compliance with POPIA.

- **Vendor Agreements & Privacy Terms:** Read the privacy policies of third-party AI tools carefully. Avoid tools that claim ownership of user data, lack data deletion options, or are vague about data sharing practices.

- **Ethical Risk Assessment:** When introducing a new AI tool, conduct an ethical risk review. Consider factors such as bias, reliability, and data exposure. Appendix Q includes a template for this purpose.

- **Departmental Oversight:** Departments should track what AI tools are being used in courses. Brief reports at Departmental meetings ensure transparency and consistency and help avoid duplication or conflict across modules.

- **Data Protection:** When using AI, protect yourself and others by only using trusted vendors who allow you to disable chat history or model training easily.

6.5 Research Supervision

For postgraduate students (Honours, MSc, PhD) and undergraduate research projects, AI can be both a helpful tool and a source of ethical concern. Supervisors should guide students on how to use AI appropriately in research:

- **Literature Reviews & Reference Management:** While AI can assist in summarising literature or suggesting relevant articles, students must read and synthesise the original sources themselves. Any summaries generated by AI should be verified and properly cited. Supervisors can request prompt logs or reference lists to ensure transparency and accuracy. Students must have a physical or PDF copy of each reference they cite, and must be able to verify that facts attributed to a reference do in fact appear within the reference.

- **Methodology & Data Analysis:** AI tools such as machine learning models or statistical assistants may aid in data interpretation. However, students must be able to explain and justify all analyses and accompanying computer scripts that generate the data analysis. AI usage must be reproducible and documented (*e.g.*, "Tool X was used to cluster the dataset using these parameters…").

- **Writing & Thesis Preparation:** AI tools may be used for developing the structure of thesis chapters (at the level of primary, secondary, and tertiary headings, say), grammar checking or drafting minor sections, but the intellectual content must be student-driven. Any AI use in writing must be disclosed in the acknowledgements or methodology section. The student should review and verify all AI-enhanced writing.

- **Publication Guidelines:** Supervisors must ensure students are aware of publisher requirements regarding AI. Journals generally prohibit listing AI as co-author and require disclosure of AI support in writing. Students should track AI usage and prepare disclosures accordingly.

- **Intellectual Property & Attribution:** Clarify ownership when using AI-generated materials like images or code. Students must credit tools appropriately. Supervisors should consult UWC's Research Office if there are uncertainties about intellectual property.

- **Ethical Clearances:** If AI is used to process human subjects' data (*e.g.*, interview transcripts, intervention content), ethics approval must explicitly permit this. When in doubt, supervisors should consult the Ethics Committee.

- **Early Training:** Supervisors are encouraged to discuss AI use expectations early in the research process. A shared understanding of responsible AI use fosters trust and academic integrity

6.6 Assessment Design Strategies

The design principles in Table 3 can help create assessments that are more resilient to unethical AI use while leveraging AI's strengths for pedagogical innovation.

Table 3: Comprehensive Assessment Design Strategies for AI-Aware Learning.

Strategy	Description & Key Components
Authentic, Higher-Order Tasks	- **Real-World Relevance:** Use project- or problem-based scenarios tied to local/current contexts; students interpret, justify and adapt AI-generated solutions. - **Higher-Order Skills:** Emphasise analysis, evaluation and creative synthesis rather than recall. - **Multi-Step Workflows:** Require drafts, peer review, and revisions; submit prompt logs and reflective notes explaining AI's role and decision rationale. - **Personal & Contextual Insights:** Link theory to personal experiences or research settings to introduce individual depth beyond AI's reach.
Take-Home vs Invigilated Components	- **Formative Practice (Take-Home):** Un-graded tasks allowing exploration of concepts and safe experimentation with AI. - **Summative Mastery (Invigilated):** Graded, supervised assessments prohibiting AI use, ensuring demonstration of unaided proficiency.
Reflection & Process Documentation	- **Prompt Logs:** Time-stamped records of AI queries and responses when AI is permitted. - **Reflective Journals:** Brief write-ups on AI's contributions, learning gains and encountered challenges. - **Draft Submissions:** Multiple versions or milestones to track student reasoning and highlight human contributions.
Oral & Interactive Verification	- **Vivas/Oral Exams:** Short defenses paired with major written projects to confirm understanding and authorship. - **Presentations & Demonstrations:** In-person walkthroughs of methods or results. - **In-Class Quizzes & Follow-Ups:** Quick, supervised checks immediately after take-home work to verify comprehension.
Integrity Safeguards	- **Variable Inputs:** Rotate datasets, case details or parameters annually or by section. - **Random Spot Checks:** Notify students of potential brief oral verification of their submissions to deter generic AI responses.
Grading & Feedback	- **AI-Use Criteria in Rubrics:** Assess transparency and quality of AI prompts, and balance of AI vs student input. - **Human Oversight:** All AI-generated feedback must be reviewed and validated by staff. - **Feedback on AI Use:** Acknowledge exemplary AI integration; guide corrective actions for misuse. - **Personalised Comments:** Even when AI informs drafting, tailor feedback to each student's specific strengths and improvement areas.

7. AI Use Disclosure Statement

Generative AI tools (including ChatGPT, DALL·E 3, and Elicit) were used as drafting and editing aids during the preparation of this document. These tools assisted in summarising policy materials, refining wording, and generating illustrative elements. All outputs were reviewed and edited by the

Faculty AI Task Team to ensure accuracy and alignment with UWC's academic standards. This use complies with the Faculty of Natural Sciences' AI Guidelines for L&T, Version 1.0, July 2025.

8. References (APA Style)

AI Tools and Software:

- OpenAI. (2025). ChatGPT [Large language model].
- OpenAI. (2025). DALL·E 3 [Image generation model].
- Ought. (2025). Elicit [AI research assistant].

General Principles for AI Use[1]

1. Uphold Academic Integrity and Transparency

- All AI use must comply with UWC's Plagiarism Policy and UWC's AI Guidelines.
- Do not use AI to engage in academic dishonesty on assignments, quizzes, tests, exams, or to present AI-generated work as your own.
- Disclose any AI assistance clearly (e.g., in a footnote or acknowledgement). Unacknowledged AI use is academic misconduct.

2. Follow Course- and Assessment-Specific Policies

- Only use AI tools if explicitly permitted by your lecturer or supervisor.
- If an assessment forbids AI, it is prohibited—including in invigilated exams.
- When unsure, check your syllabus or consult your lecturer. In the absence of clear approval, AI use should be considered prohibited.

3. AI as Support, Not Substitute

- Use AI to enhance learning—for brainstorming, draft refinement, tutoring, or data analysis—not to replace your own critical thinking.
- The core content and interpretation in any submission must reflect your own understanding and effort.

4. Limit AI-Generated Content

- AI should support your work—refining phrasing, suggesting ideas, or highlighting angles—not replace your own analysis and creativity.
- Keep the bulk of each assignment grounded in your own insights; if AI begins to drive most of your content, pause, reintegrate your ideas, and seek feedback from your lecturer or peers.

5. Fact-Check and Verify

- AI outputs can be incorrect or incomplete. Always cross-verify facts, data, and references against authoritative sources.
- For every AI-suggested citation, confirm that the source exists and accurately supports the claimed information.

6. No Fabrication or Hallucinations

- The use of AI to generate fictitious data, false references, or fabricated research outcomes is strictly prohibited, unless such content is explicitly identified as simulated.
- All research data and references must be accurate, verifiable, and, where applicable, approved by your supervisor—especially when based on confidential, restricted, or non-public sources.

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[1] Generative AI tools were used as drafting and editing aids during the preparation of this document. This use complies with the Faculty of Natural Sciences' AI Guidelines for L&T, Version 1.0, July 2025.

7. Protect Privacy and Data

- Do not enter personal, sensitive, or confidential information (e.g., student records, patient data) into public AI services.
- Comply with POPIA and UWC's information-protection policies; use only approved platforms for institutional data.

8. Ensure Equity and Access

- When AI is permitted, lecturers should secure equitable access (e.g., via campus licenses) and offer alternatives for students with limited resources.
- Strive to use AI in ways that narrow, not widen, existing gaps in access and skills. For example:

Action	Implementation Examples
Embed Training	Short tutorials or walkthrough videos on approved AI tools
Survey Backgrounds	Quick pre-course questionnaire on access & connectivity
Offer Alternatives	Traditional exercises or offline templates for those without AI access

9. Accountability and Human Oversight

- You retain full responsibility for any AI-assisted work. Critically evaluate all AI suggestions—never accept outputs uncritically.
- In group projects, all members share accountability for ethical AI use and any misconduct.
- Each department will appoint an AI Champion to uphold these guidelines, address ethical AI queries, and report insights to the Teaching and Learning Committee.

10. Professional and Ethical Use

- Adhere to the professional norms of your discipline; AI must not facilitate fraud, discrimination, or other unethical behavior.
- Obtain permission from project supervisors before using AI to generate or analyse proprietary research.

11. Citing AI Assistance

- When AI tools contribute substantive text or analysis, cite them as follows:
  - OpenAI ChatGPT (GPT-4), [date], "Description of prompt or output," accessed via [platform]. Full citation guide.
- Include these citations in your reference list under "AI Tools and Software."

12. Mandatory Training and Continuous Learning

- Complete the Ethical Use of AI orientation (via CIECT) before employing AI tools.
- Stay current with evolving AI capabilities, AI tools and updated UWC guidelines at: https://libguides.uwc.ac.za/AI-resources/home

13. Governance and Review

- The Learning & Teaching Committee, in collaboration with departmental representatives, will continuously review and update these guidelines.
- Updates will be publicised through UWC's official communication channels.
- If you suspect any misuse of AI, report it promptly through your department's established channels. Serious violations will be handled under the standard disciplinary procedures.

For full governance details, assessment design strategies, templates, and additional resources, please refer to the comprehensive Faculty AI Learning and Teaching manual.

> (!) Need help navigating these AI Guidelines?
>
> Try the new UWC AI-Learning Guide (Beta Version)! This assistant explains the Faculty of Natural Sciences' AI Guidelines (2025) and offers ethical, practical tips for students and lecturers.

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References (APA Style)

AI Tools and Software:

- OpenAI. (2025). *ChatGPT*, Large language model. https://chat.openai.com.
- OpenAI. (2025). *DALL·E 3*, Image generation model. https://openai.com/dall-e.
- Ought. (2025). *Elicit*, AI research assistant. https://elicit.org.