

Office of Graduate Studies



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CSUSB Guidance on the Use of Generative AI in Theses, Projects, and Dissertations

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A. Overview

In response to the rapidly evolving landscape of generative artificial intelligence use in academic and educational settings, this document offers preliminary guidance on the use of AI in graduate theses, projects, and dissertations written at CSUSB. This guidance will be updated as higher education learns more about the impact of generative AI on academic work. The guidance below outlines important considerations for graduate students, supervisors, supervisory committees, and graduate programs on the use of generative AI tools (such as ChatGPT) in graduate student research and thesis writing. The guidance covers requirements both for approval and for documentation of the use of generative AI tools in graduate thesis, project, and dissertation research and writing, as well as risks and other considerations in using generative AI in graduate thesis, project, and dissertation research and writing.

Innovative and creative uses of generative AI may support scholarly activities and help facilitate high quality research, particularly in certain disciplines. Graduate students and faculty supervisors are expected to strive for the highest standards of academic quality and research integrity in all scholarly activities, and therefore the use of generative AI tools in the process of graduate thesis, project, and dissertation research and writing must always take place with full transparency. This includes transparency between students and their supervisors, who must agree in advance how any generative AI tools will be used; as well as transparency between graduate students and the audiences of their work, who must be provided a clear and complete description and citation of any use of generative AI tools in creating the scholarly work.

Students who plan to use generative AI tools in researching or writing their graduate thesis, project, or dissertation must always seek and document in writing unambiguous approval for the planned uses in advance from their supervisor(s) and supervisory committee. Unauthorized use of generative AI tools for scholarly work at the CSUSB may be considered an offense under the <u>Policy on Upholding Research</u> <u>Integrity</u>. Furthermore, careful attention must be paid in the thesis, project, or dissertation to appropriate citation and describing any use of generative AI tools that took place in the research or writing process, in line with disciplinary norms. This includes, for example, using generative AI tools in searching, designing, outlining, drafting, writing, or editing the thesis, or in producing audio or visual content for the thesis, and may include other uses of generative AI. Even when engaging in authorized generative AI use, faculty and graduate students must be aware of the risks in using such tools, some of which are discussed below.

Graduate programs may have specific requirements or restrictions regarding the use of generative AI in some or all phases of the graduate research lifecycle. Individual graduate programs may therefore issue additional guidance outlining field-specific appropriate uses of generative AI tools in researching and writing a thesis, project, or dissertation. This could include, for example, guidance on use in writing text, conducting analytical work, reporting results (e.g., tables or figures) or writing computer code. Graduate units issuing additional guidance should take into account the issues discussed below.

B. Using AI in Writing the Thesis, Project, or Dissertation

The production of theses, projects, or dissertations includes presenting the results and analysis of original research, and demonstrating that the thesis, project, or dissertation makes an original contribution to advancing knowledge in line with the <u>California Administrative Code of Regulations Title</u> <u>5</u>, <u>Section 40510</u>. These originality requirements may not be met by work produced using generative AI tools, which rely on existing sources to generate content-based probabilistic or other predictive functions that may not result in sufficiently original content to meet the criteria.

If a student plans to use generative AI tools in any aspect of researching or writing of their thesis, project, or dissertation, this must be done with the prior approval of the supervisor(s) and supervisory committee. Careful attention must be paid in the thesis, project, or dissertation to appropriately citing and describing any use of generative AI tools in the research process. It must be clear to the reader which generative AI tools were used, as well as how and why they were used. In the same way that analytical tools and specific analytical approaches are identified and described in the thesis, generative AI tools and interactions with them must be equivalently described.

When supervisors and committees approve student use of generative AI in any aspect of producing the thesis, project, or dissertation, it must be clear how the student's versus the AI tool's contributions will be identified. It must be clear to the student what evidence they need to provide to clarify their own contributions and how they made use of any AI tools, and how their work will be assessed by the supervisor and committee at each supervisory committee meeting. Students are responsible for any content generated by AI that they include in their thesis, project, or dissertation.

Graduate programs considering how students may engage with generative AI in writing their thesis, project, or dissertation should also consider that learning the practices of disciplinary scholarly writing is a key aspect of graduate education. The use of generative AI could hamper the development of these essential writing skills because these skills are highly dependent on practice. Using AI to lessen the burdens of writing could undermine the development of invaluable writing skills, which could have consequences for graduate students.

The same principles that apply to the use of generative AI tools to produce or edit text also apply to the use of these tools to produce or edit figures, images, graphs, sound files, videos, or other audio or visual content. It should be noted, however, that some publication policies permitting the use of AI-generated text in certain contexts apply more stringent criteria to image content, in some cases completely prohibiting such content, for example, see the <u>editorial policy on the use of AI-generated images at Nature</u>.

C. Using AI in Research

Different disciplinary norms are likely to emerge around the appropriate use of generative AI in research, even in fields in which the focus of the research is not specifically the development and implementation of AI. If use of generative AI is permitted by a graduate program in the research process, it must be clear to faculty and students which methods (if any) are acceptable and which (if any) are not. Supervisors should seek clarification from their graduate program if uncertain about a particular use of generative AI in thesis, project, and dissertation research and thesis writing.

D. AI Tools and Security

Privacy concerns have been raised in relation to the data processing undertaken to train generative AI tools, as well as the (mis)information that such tools provide about individuals or groups. For graduate student researchers working with certain kinds of data, using third-party generative AI tools to process the data may come with additional privacy and security risks. For example, students working with data from human research participants must not submit any personal or identifying participant information, nor any information that could be used to re identify an individual or group of participants to third-party generative AI tools, as these data may then become available to others, constituting a major breach of research participant privacy. Similarly, students working with other types of confidential information, such as information disclosed as part of an industry partnership, must not submit these data to third-party generative AI tools, as this could breach non-disclosure terms in an agreement. Students wishing to use generative AI tools for processing such data must have documented appropriate permissions to do so, for example, explicit approval from the Institutional Review Board.

Researchers are advised to seek help assessing the risk prior to engaging in any data or information processing with third-party AI tools. Your IT team or Library may be able to provide help assessing the risk attached to a particular use case.

E. AI and Referencing

If a graduate unit permits the use of generative AI in research, the graduate unit should ensure discipline-specific norms regarding description of the method of use and appropriate references are clear. For example, is it adequate to include the prompts provided to a tool along with excerpts of responses? Should students save or include the full text of their interactions with AI tools in an appendix? Different citation style guides are starting to include specific information on how to cite generative AI tools, for example, see the <u>American Psychological Association Style Blog</u>. Links to major style guides can be found on the <u>Pfau Library Citing & Writing</u> webpage.

F. AI and Accuracy

Generative AI may produce content that is wholly inaccurate or biased. AI tools can reproduce biases that already exist in the content they are trained on, include outdated information, and can present untrue statements as facts. Students remain responsible for the content of their thesis, project, or dissertation no matter what sources are used. Generative AI tools have also been shown to reference scholarly works that do not exist, and to generate offensive content. Therefore, AI-generated content may not meet the academic or research integrity standards expected at CSUSB. Generative AI tools are also predictive and cannot generate the type of original content expected of graduate students,

G. AI and Intellectual Property and Copyright

The legal landscape with respect to intellectual property and copyright in the context of generative AI is uneven across jurisdictions and rapidly evolving, and the full implications are not yet clear. Researchers, including graduate students, must exercise caution in using generative AI tools, because some uses may infringe on copyright or other intellectual property protections. Similarly, providing data to an AI tool may complicate future attempts to enforce intellectual property protections. Generative AI may also produce content that plagiarizes others' work, failing to cite sources or make appropriate attribution. Graduate students including AI-generated content in their own academic writing risk including plagiarized material or someone else's intellectual property. Since students are responsible for the content of their academic work, including AI-generated content may result in a violation of the <u>CSUSB</u> student conduct policies.

H. AI and Responsibility

Graduate students who make use of AI tools and include the output in their research and written work are ultimately responsible for the content. This applies to work submitted as part of degree requirements, as well as in scholarly publishing. Graduate students and their co-authors must understand the terms and conditions of any submission of their work and for any tools they use, as these often hold the user responsible for the content. This means graduate students may find themselves in a position where they face allegations of perpetuating false or misleading information, infringement of intellectual property rights, violating the conditions of research ethics approval, other research misconduct, infringement of privacy rights, or other issues that carry academic, civil, or criminal penalties.

Adapted from the University of Toronto's <u>Guidance on the Appropriate Use of Generative Artificial</u> <u>Intelligence in Graduate Theses</u>