Artificial intelligence content generation tools (AICGTs), such as ChatGPT and DALL●E 2, have the potential to transform the teaching, learning, and research landscape in higher education. By expanding humans' ability to create various forms of content, including text, images, digital art, sound, video, and programming code, AICGTs are slowly disrupting teaching practices as well as traditional models of knowledge creation. While some educators are excited about the pedagogical potential of these tools, others worry that they could undermine students' academic integrity, creativity, and critical thinking.
To help you navigate this emerging landscape, the Center for Faculty Development has created a comprehensive FAQ document that addresses common questions about generative AI content. We hope this useful resource will help you make informed decisions about how to incorporate AI-generated content into your teaching, learning, and research activities.

We encourage you to use this resource and share it with your colleagues. The FAQ will be updated regularly to keep you informed about the latest AI tools. If you have any suggestions or feedback, please contact us at cfd@odu.edu.

1. What is AI-Generated Content?

AI-generated content is any content created by artificial intelligence tools. Trained on massive amounts of data, these tools use complex machine learning algorithms to generate content such as articles, images, and programming code based on text prompts. For example, GPT-4 has the potential to accept text and images as input, extending the multimodal capabilities of AI content creation tools. Similarly, DALL-E 2 can generate realistic images and digital artwork from user-written descriptions.

2. What should I know before I start using AICGTs?

2.1. Familiarize yourself with the various AI Content Generation Tools. See page 11 for a list of some of the most popular AICGTs.
2.2. Clarify your course goals and reflect on how AI-generated content can help you accomplish or improve your students' learning outcomes.
2.3. Clarify your academic honesty expectations. Be clear about what your students are allowed or not allowed to use.
2.4. Update your course syllabus honor code based on your decision to use or not use AICGTs. See examples of syllabus statements below.
2.5. Before requiring your students to use AI tools, you need to:
   2.5.1. Discuss the use of AI-generated content with your students. Highlight the pros and cons of various AICGTs.
   2.5.2. Review the privacy and data collection practices of the AICGTs, including log-in data, tracking, analytics, etc.
   2.5.3. Check if the tools are free and accessible.
   2.5.4. Remember that AICGTs are subject to FERPA regulations: students' personal information should not be disclosed to systems that are not supported by the university.
2.6. Provide clear assignments instructions on how to use AICGTs: why (purpose), what (tasks) how (evaluation criteria).
2.7. Provide alternative assignments for students who opt out from using AI tools.
2.8. Design your grading rubric around your assignments’ expectations.
2.9. Provide clear guidance on how to cite AI-generated content. See citation example below.
2.10. Review the ethical implications of AICGTs on academic honesty.
2.11. Run one of your assignments through one of the AICGTs such as ChatGPT during class and discuss the output with your students. Remember that the assignment prompt gives a different output every time it is submitted.
2.12. Familiarize yourself with various AI-Generated text detection tools. See list of AI detection tools below.
2.13. Remember that AICGTs responses are sometimes inaccurate, if not false or made up (hallucinations problem).

3. How can AICGTs support faculty in their teaching and research activities?

3.1. Teaching and Learning (this list is not exhaustive):

3.1.1. Generate draft/outline for course syllabus, lecture notes, etc.
3.1.2. Create course readings, study guides, presentations, visuals, and more.
3.1.3. Draft quiz questions and answers, rubrics, assignments, project-based learning scenarios, etc.
3.1.4. Generate weekly activities and creative writing prompts for students.
3.1.5. Generate practice quizzes and surface-level prompts, etc.
3.1.6. Generate personalized feedback on student assignments.
3.1.7. Edit and proofread papers.
3.1.8. Provide simple explanations for complex concepts.
3.1.9. Translate text from one language to another.
3.1.10. Write and debug programming code.
3.1.11. Author stories, book synopses, poems, jokes, emails, etc.
3.1.12. Improve/inspire creative writing process: tone, outlines, metaphors, follow-up sentences, different perspectives, details, etc.

3.2. Research (this list is not exhaustive):

3.2.1. Generate ideas, questions, references for research proposals, etc.
3.2.2. Conduct online research and review of the literature.
3.2.3. Summarize research papers and findings.
3.2.4. Analyze qualitative data: classify data, generate themes, and transcribe data from audio and video recordings.
3.2.5. Analyze quantitative data: basic statistics, predictive modeling, visualization of data, etc.
4. How can AICGTs improve students’ learning?

4.1. Assist with Coursework
   4.1.1. Answer questions on a variety of topics and disciplines.
   4.1.2. Write abstracts for articles and book reviews.
   4.1.3. Solve mathematical and engineering problems (high rate of inaccurate answers).
   4.1.4. Explain complex scientific ideas.
   4.1.5. Write full essays and papers from prompts.
   4.1.6. Proofread written text.
   4.1.7. Receive feedback on writing.

4.2. Create Study Materials for Courses
   4.2.1. Create study guides and summaries.
   4.2.2. Create exercises and quizzes for different disciplines.
   4.2.3. Provide reference material (may contain outdated or inaccurate information).
   4.2.4. Create flash cards on various subjects.

4.3. Improve Study Skills
   4.3.1. Create to-do lists.
   4.3.2. Provide schedule templates.
   4.3.3. Offer productivity tips.
   4.3.4. Provide resources and support.

4.4. Prepare for Tests and Exams
   4.4.1. Provide sample questions for exams and quizzes.
   4.4.2. Generate practice tests.
   4.4.3. Offer study tips and strategies.

4.5. Supporting Research Activities
   4.5.1. Provide research suggestions.
   4.5.2. Create outlines, summaries for research papers.
   4.5.3. Generate bibliographies (may contain outdated or inaccurate references).
   4.5.4. Conduct literature reviews.
5. How can I use the AICGTs to enrich and diversify my course assignments?

5.1. Encourage students to create reusable prompts and scenarios for your course assignments and activities.

5.2. Provide sample prompts related to the course assignments. Here is a link on how to create effective prompts: https://fka.gumroad.com/l/art-of-chatgpt-prompting?a=70565704. Understanding the wording and structure of prompts is one of the most important skills for using AICGTs effectively (prompt engineering).

5.3. Assign students to evaluate the accuracy, ethical issues, and relevance of AI-generated content.

5.4. Ask students to revise/improve AICGTs's output using Track Changes (Microsoft Word) or Suggesting in Google Docs.

5.5. Use AI tools as thinking partners to design and complete assignments.

5.6. Have students flag inaccurate, biased, or misleading information generated by AIGCTs.

5.7. Use AI tools as a starting point to generate ideas and facilitate discussion.

5.8. Use AI tools to identify student misconceptions.

5.9. As you evaluate your students' writing, consider the following questions:
   i. What is the role of writing in your course?
   ii. What are you grading? What criteria are you using?
   iii. What kind of feedback do you need to give your students?
   iv. How can you use ChatGPT and other AICGTs to help your students become better writers (metacognitive skills)?

6. How can I design assignments that do not discourage my students from using AICGTs?

If you choose not to use AI-generated content, you will need to design your assignments with the following suggestions in mind:

6.1. Reference your class lecture notes, materials, or discussions in your assignments.

6.2. Include current events and news in your assignments.

6.3. Use a multi-step submission process that includes an outline, draft, and final version.

6.4. Use multimodal assignments that require non-text-based responses (infographics, interactive Google maps, timelines, etc.).

6.5. Encourage students to reflect on their process of completing assignments (metacognitive).

6.6. Design assignments that require current sources and references, making it difficult to rely on outdated or inaccurate information.

6.7. Replace written assignments with multimedia submissions (audio, video, etc.).

6.8. Incorporate in-class writing and conferences to discuss writing, among other activities.

Alternatively, you might invite your students to think about ways to incorporate AI-generated content into your course activities, while considering how it will affect their creativity and learning process.
7. What statement should I include in my syllabus about the use of AICGTs?

Depending on your course learning outcomes and expectations, consider adopting or modifying one of the following examples:

**7.1. Option A - Use of AI tools to generate content is prohibited:**

In this course, you may not use AI tools such as ChatGPT and DALL•E 2 to generate content, including text, images, digital art, sound, video, and programming code. You will be required to complete all course assignments on your own or with your classmates. Using AI tools to create content for your assignments is a form of academic dishonesty and a violation of the University Honor Code.

**7.2. Option B – Partially allow AI-generated content with attribution:**

In this course, you may use AI tools such as ChatGPT and DALL•E 2 to brainstorm ideas and create outlines. However, you may not include AI generated content in your final submission without attribution. Using AI-generated content without giving proper attribution is a form of academic dishonesty and a violation of the University Honor Code.

**7.3. Option C - Allow AI-generated content with attribution:**

In this course, you may use AI tools such as ChatGPT and DALL•E 2 to generate content for your assignments, provided that the content is accurate, unbiased, and appropriate for the assignment. To ensure academic integrity, you must (1) specify which AI tool you used, (2) use quotation marks or a different font color to distinguish AI-generated content, and (3) include citations to the AI tool sources in your references. Failure to properly cite AI-generated content is a form of academic dishonesty and a violation of the University Honor Code.
Provide clear guidelines for citing AI-generated content:

8.1. General writing, images, artwork, programming code, etc.:
   8.1.1. Acknowledge the use of AIGCTs:
   8.1.2. What tools did you use?
   8.1.3. What prompt did you use to generate the content?
   8.1.4. What content did you use: design, outline, image, code, content used?
   8.1.5. Indicate the date you used the tool.

Example: (OpenAI's ChatGPT AI language model, "prompt", "draft", March 1, 2023).

9. What precautions should my students take before using AI-generated content?

9.1. Accuracy and bias: AI-generated content may not always be accurate or unbiased. Some tools, such as ChatGPT, may even create information or references that do not exist.
9.2. Current knowledge: AIGCTs have a limited understanding of world events that have occurred after 2021.
9.3. Conversational responses: ChatGPT, for example, remembers past prompts and can adapt responses. This in-context learning is often used to circumvent ChatGPT's internal safeguards.
9.4. Availability: Unless you have a paid monthly subscription, some AIGCTs like ChatGPT may not always be available.
9.5. User Data: AIGCTs collect user data, so it is important not to share any personal information.

10. How can I identify AI-generated content in my students' work?

Familiarize yourself with various AI-Generated text detection tools:

- Al Content Detector
- Al Text Classifier
- Al Writing Check
- Content At Scale
- Copyleaks
- Giant Language Model Test Room (GLTR)
- GPTZero
- Originality.ai Plagiarism Checker and AI Detector
- Al Writing Check
Keep in mind that these tools are not always accurate. Because some of these tools are based on outdated versions of AIGCTs, the results are inconsistent and sometimes inaccurate. Also, users can create multiple iterations of the same text using different AI technologies until it is no longer detectable.

Gewitz, D. (2023, January 13). Can AI detectors save us from ChatGPT? I tried 3 online tools to find out. ZDNET.

11. Where can I learn more on AICGTs?

References

- [AI in Higher Education](#)
- [AI Text Generators Sources to Stimulate Discussion among Teachers](#)
- [ChatGPT and Education](#)
- [ChatGPT General FAQ](#)
- [Faculty Help: ChatGPT's Impact on Higher Education: Resources: FAQ](#)
- [GPT: The Generative AI Revolution, EDUCAUSE](#)
- [Robo-rights: As AI art takes over, who’s the real artist in the machine learning age?](#)

In the media:

- [19 Ways to Use ChatGPT in Your Classroom](#)
- [43 Examples of Artificial Intelligence in Education](#)
- [AI and the Future of Undergraduate Writing](#)
- [Alarmed by AI Chatbots, Universities Start Revamping How They Teach](#)
- [ChatGPT Advice Academics Can Use Now](#)
- [Cheating with ChatGPT: Can openAI’s chatbot pass AP lit?](#)
- [Noam Chomsky: The False Promise of ChatGPT](#)
- [Is AI the New Homework Machine? Understanding AI and Its Impact on Higher Education](#)
- [Teaching: Will ChatGPT Change the Way You Teach?](#)
Peer-reviewed Articles:


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<th>Content Type</th>
<th>AI Tools</th>
<th>Website</th>
<th>Potential Use</th>
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<td>GPT-3</td>
<td><a href="https://openai.com/gpt-3/">https://openai.com/gpt-3/</a></td>
<td>Revise content on a variety of topics, including drafting course syllabi,</td>
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<td>GTP-4</td>
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<td>lectures, assignments, rubrics, quizzes, etc.</td>
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<td>ChatGPTwriter</td>
<td><a href="https://chatgptwriter.ai/">https://chatgptwriter.ai/</a></td>
<td>Compose and respond to email using simple prompts.</td>
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<td>GPT For Work</td>
<td><a href="https://gptforwork.com/">https://gptforwork.com/</a></td>
<td>Create, edit, summarize, translate, and classify content in Google Sheets and</td>
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<td>Google Docs.</td>
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<td>Paraphrase sentences and paragraphs.</td>
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<td>Hemingway Editor</td>
<td><a href="https://hemingwayapp.com/">https://hemingwayapp.com/</a></td>
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<td>QuilBot</td>
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<td>Paraphrase sentences, check grammar, summarize and generate quotations.</td>
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<td>Speedwrite</td>
<td><a href="https://speedwrite.com/">https://speedwrite.com/</a></td>
<td>Write, rewrite, and generate text.</td>
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<td>Slide Creation</td>
<td><a href="https://tome.app/">https://tome.app/</a></td>
<td>Design slides and stories that combine multiple types of content.</td>
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<td>Color and paint images using different colors.</td>
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<td>Prompthunt</td>
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<td>Image Cleaner</td>
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<td>Clean up your images and pictures by instantly removing unwanted objects.</td>
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<td>Canva Image Generator</td>
<td><a href="https://www.canva.com/features/ai-image-generator/">https://www.canva.com/features/ai-image-generator/</a></td>
<td>Create different images and artwork based on text prompts and descriptions.</td>
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<td>WaveNet</td>
<td><a href="https://deepmind.com/research/">https://deepmind.com/research/</a></td>
<td>Create transcripts and raw audio.</td>
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<td>Lyrebird</td>
<td><a href="https://lyrebird.ai/">https://lyrebird.ai/</a></td>
<td>Create synthetic voices and audio.</td>
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<td><strong>Video</strong></td>
<td><strong>Designs.ai</strong></td>
<td><strong><a href="https://designs.ai/">https://designs.ai/</a></strong></td>
<td>Create, edit, and scale content such as logos, videos, banners, flyers, and mockups.</td>
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<td><strong>Make-A-Video</strong></td>
<td><strong><a href="https://makeavideo.studio/">https://makeavideo.studio/</a></strong></td>
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<td>Create short video clips from text prompts.</td>
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<td><strong>FlexClip</strong></td>
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<td>Edit and create videos that include text, images, audio, and animation.</td>
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<td><strong>Various tools</strong></td>
<td>InVideo.io, Synthesia.io, VEED.io, Lumen5, Designs.AI</td>
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<td>Remove background from videos.</td>
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<td><strong>Coding</strong></td>
<td><strong>DeepCode</strong></td>
<td><strong><a href="https://deepcode.ai/">https://deepcode.ai/</a></strong></td>
<td>Write programming code and troubleshoot coding errors.</td>
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<td><strong>Codex</strong></td>
<td><strong><a href="https://openai.com/codex/">https://openai.com/codex/</a></strong></td>
<td>Generate code in multiple languages, debug and fix errors. Create programming assignments and coding tutorials.</td>
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<td><strong>Polycoder</strong></td>
<td><strong><a href="https://github.com/VHellendoorn/Code-LMs">https://github.com/VHellendoorn/Code-LMs</a></strong></td>
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<td>Convert images to 2D and 3D formats.</td>
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<td><strong>AI Detection</strong></td>
<td><strong>AI Text Classifier</strong></td>
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<td><strong>GPTZero</strong></td>
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<td>Detect AI-generated text.</td>
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<td><strong>Translation</strong></td>
<td><strong>DeepL</strong></td>
<td><strong><a href="https://www.deepl.com/translator">https://www.deepl.com/translator</a></strong></td>
<td>Translate any text into 29 languages.</td>
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<td><strong>Academic Research</strong></td>
<td><strong>Elicit</strong></td>
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<td>Automate research workflows, such as parts of literature reviews.</td>
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<td>Access free and open resources with machine learning papers, code, datasets, methods, and evaluation tables.</td>
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</table>

**Repositories for AI tools:**

1. [https://allthingsai.com/](https://allthingsai.com/)
2. [https://aidepot.co/](https://aidepot.co/)
3. [https://www.futuretools.io/](https://www.futuretools.io/)
4. [https://www.generatecontent.ai/](https://www.generatecontent.ai/)