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AUDITCON

A HIGHER EDUCATION SUMMIT

  
ASSOCIATION OF COLLEGE & UNIVERSITY AUDITORS



# AuditCon

## A Higher Education Summit

September 24-28, 2023 Loews Miami Beach Hotel • Miami Beach, FL



# Auditing for academic integrity and honesty in the age of AI

# Introductions

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# Agenda

- Objectives
- Emerging technologies and their impact on the academy
- Academic integrity: a framework
- Institutional approaches to AI
- Audit objectives and approaches for evaluating academic integrity

# Objectives

- Provide an overview of the emerging technologies and discuss the potential impacts to the academy
- Outline an academic integrity framework
- Discuss institutional approaches to accepting/denying AI in academic activities (e.g., coursework, research)
- Share audit objectives approaches for evaluating academic integrity protocols in light of the emergence of AI

# Background – Why does this matter?

- Higher education has experienced increased rates of cheating, and inappropriate awarding of course grades or degrees in recent years.
- The recent emergence of accessible AI technology (e.g., ChatGPT) has left institutions divided about how this technology impacts academic integrity.
- Institutional leaders must consider the design and operation of their academic integrity framework (policies, procedures, systems and other controls which safeguard the academic honesty and reputation of the institution) and determine how AI technologies will be (or not) embedded into daily academic life.

# Emerging technologies and their impact on the academy



# Emerging technologies

- **Generative AI**

- Generative AI is form of machine learning that takes a set of samples as input and learns from those samples to generate new content [1]
- Generative AI tools are trained on massive text data to create novel, human-like text responses.
- Has been around for about a decade but exploded in late 2022 when it was made available to consumers with the release of several text-to-image model services (e.g., MidJourney, Dall-E 2, Imagen, and the open-source release of Stability AI's Stable Diffusion) [2]
- Examples: ChatGPT (OpenAI), Bard (Google)

[\[1\] What is generative AI? A Google expert explains. \(blog.google\)](#)

[\[2\] A Brief History of Generative AI. How did we get to where we are today in... | by Matt White | Medium](#)



# But AI isn't new...

Generated  
media<sup>[3]</sup>

Autocorrect<sup>[4]</sup>

Spelling and  
grammar  
checks

Suggested  
email replies

[\[3\] Artificial Intelligence | AP](#)

[\[4\] Integrating Generative AI into Higher Education: Considerations | EDUCAUSE Review](#)

# If AI is not “new”, why are we/should we be concerned?

- Ethical concerns [5]
  - Copyright
  - Intellectual property
  - Biases in the training data
  - Responsible conduct of research
- Academic concerns
  - Inconsistently embraced by some institutional units (e.g., admissions)
  - Hard to detect the use of generative AI
  - Faculty opposition – viewed as cheating, violation of academic integrity

[\[5\] Integrating Generative AI into Higher Education: Considerations | EDUCAUSE Review](#)

# Academic Integrity: A framework



# Is academic integrity only cheating?

- Academic integrity isn't a set of prohibitive behaviors, it is an institutions' commitment to the principles of integrity
- The International Center for Academic Integrity defines academic integrity as a commitment, even in the face of adversity, to six fundamental values: honesty, trust, fairness, respect, responsibility, and courage. From these values flow principles of behavior that enable academic communities to translate ideals into action.[6]

[6] [20019 ICAI-Fundamental-Values R12.pdf \(academicintegrity.org\)](#)

# A culture of academic integrity

- At an institutional level, a culture of integrity exists at the roots of the organization as a foundational element.
- Building such a culture requires action and commitment at the top, bottom, and throughout an organization.
- Promoting the fundamental values of academic integrity in education requires balancing high standards of integrity with the educational mission.

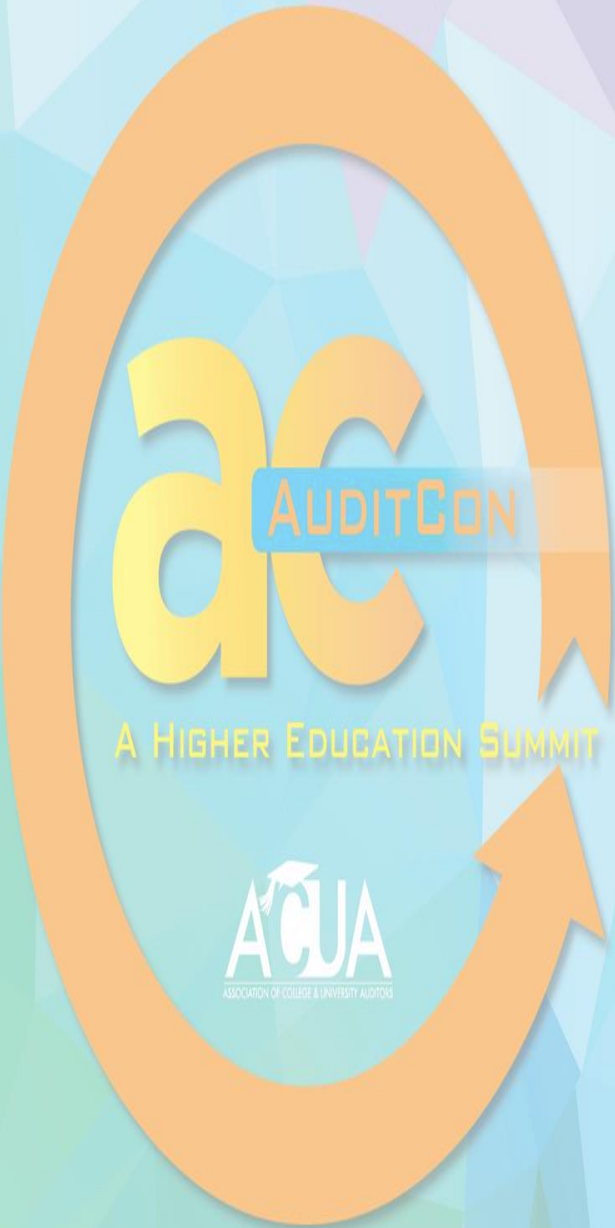
# What should institutions do to establish a framework<sup>[7]</sup>?

1. Clearly and regularly articulate how a culture of academic integrity supports achieving the institution's mission and vision.
2. Educate all members of the community about academic integrity standards so that expectations are well understood as integral components of the community culture.
3. Regularly assess the perceptions of integrity at your institution.
4. Re-envision pedagogy to include demonstrated competencies and learning outcomes so students have opportunities to practice, make mistakes, and learn from them.
5. Establish on-campus partnerships and collaborations to help faculty create positive pedagogical environments and promote integrity in the classroom.
6. Develop and publicize clear, fair, academic integrity policies, procedures, and statements that can be effectively understood, procedurally sound, and consistently implemented.

# What should institutions do to establish a framework?

7. Promote the positive aspects of academic integrity amongst all segments of the campus community.
8. Regularly review academic integrity policies to ensure that they are consistent, equitable and transparent, effective at their stated purpose, address changes in the field (e.g., new technology and evolving methods of misconduct), educational, and forward looking in their scope.
9. Support those who follow the policies and uphold standards.
10. Re-evaluate pedagogy institution-wide to reduce incentives for academic dishonesty.
11. Create and promote support services that encourage student success such as tutoring centers, writing labs, counseling services, accessibility services, etc.
12. Dedicate institutional resources to these goals, even when resources are scarce

# Institutional approaches to AI





# How, and where, are institutions embracing AI technologies<sub>[8]</sub>?

Personalized learning	Intelligent Tutoring Systems	Adaptive Group Formation	Facilitation by example	Intelligent moderation
Virtual learning reality	Essay grading	Real-time problem-solving assessment	Course quality improvement	Dynamic scheduling
Textbook customization	Virtual support	Intelligent game-based learning	Machine translation	Disability support

[\[8\] 15 Pros and 5 Cons of Artificial Intelligence in the Classroom \(livetilesglobal.com\)](#)

# How are researchers using AI?

- Written Scientific Communication
- Peer Review (e.g. Grant Applications)
- Gene Editing, Sequencing
- Software Development

# Audit objectives and approaches for evaluating academic integrity



# Audit objective

- Determine if the institution has defined its position on academic integrity, including the role of AI, and whether it has designed and executed a framework effectively and efficiently in alignment with its institutional position.

# Audit approach

- Gain an understanding of your institution's position on academic integrity, including the role of AI
- Develop a Risk Control Matrix and select key controls
- Inspect policies, procedures and other documentation to gain a preliminary understanding of processes and controls
- Interview processes owners to gain an understanding of documentation, processes, and key issues and concerns
- Perform walkthroughs of key systems and technology applications
- Test the effectiveness of key controls
- Perform data analytics

# Audit approach - Planning

- Develop a Risk Control Matrix and select key controls
- Inspect policies, procedures and other documentation to gain a preliminary understanding of processes and controls
  - Key risks / controls to consider:
    - Institutional tone/position on academic integrity AI: have standards been defined? Is the use of generative AI technology permissible?
    - Formalization of policies/protocols: Are protocols formal and do they align with the institutional position. Protocols may include “Academic Honesty Policy”; “Academic Progress Policy”; “Voluntary/Involuntary Leave Policy”
    - Communication of expectations and resources: Have expectations been communicated by someone in a position of authority (e.g., provost)? Are guidance and tools made publicly (e.g., website) for faculty and students to readily access? Is training provided?
    - Design / operating effectiveness of adjudication bodies: “Academic Integrity Council”; “Academic Honesty Board”; appeals processes

# Audit approach - Fieldwork

- Interview processes owners to gain an understanding of documentation, processes, and key issues and concerns
  - Academic community
    - AIB / AIC chairs
    - Sample faculty / students
    - Registrar's office
    - Teaching and Learning
    - Provost office
    - Writing Center
  - Student Life: Orientation, Student Success
  - Information Technology: CIO, CISO, distributed IT support personnel, academic technology personnel

# Audit approach - Fieldwork

- Perform walkthroughs of key systems and technology applications
  - User access in system (e.g. Banner)
    - For example, by policy, the Registrar is the only one who can process an F, Withdrawal, etc. related to an AHB investigation/ruling
- Review GAI Software Development Approach Controls for design and operating effectiveness
- Review GAI Written Scientific Communication Controls for design and operating effectiveness, compliance with NIH policy
- JAX policy precludes use of GAI for human editing so confirm appropriate controls implemented



# Audit approach - Fieldwork

- Test the effectiveness of key controls
  - Test a sample of reported violations and appeals to determine whether institutional processes were consistently followed
  - Sample syllabi and other relevant course materials to verify whether academic honesty disclosures are included
  - Review training documents; list of attendees

# Audit approach - Fieldwork

- Perform data analytics
  - LMS data: # and type (synchronous, asynchronous) of courses using / not using monitoring tools: undergrad, grad, prof. schools
  - Any courses not using the institutional LMS? Compare catalog with course data.
  - # of AHB incidents over a 3,5,7 year period; any trends?; increasing incidents don't necessarily indicate an eroding academic culture – could mean its strengthening – under reporting risk is key
  - Clustering of non-traditional faculty (e.g. coaches)
  - Clustering of special groups of students (athletes)
  - Student identity –see if the same student is logged in at the same time at different computers – may not necessarily be cheating but should follow up on it.
  - # of grading changes, who processes, frequency of changes by student, etc.



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# Thank you!

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