The Reckoning: Training Authentically Skilled Graduates in the Age of Generative AI

By Ben Upton

Inside Higher Ed

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Introduction

In the nearly three years since it went mainstream, generative AI (GenAI) has transformed how many of us access information—and maybe even work and think. For higher education, in particular, this has proved a double-edged sword. On one edge: immediately accessible, tailored information and feedback that can augment, personalize and ultimately enhance learning. On the other: a temptation to bypass the mental strain intrinsic to, and required for, real learning.

For colleges and universities, the promise and peril of GenAI has given way to an evolving set of expectations, practices and problems that individual instructors must daily confront. And while this new classroom reality is complex, there are already instances of GenAI enhancing learning and teaching—especially where openness and a willingness to adapt are present.

This report explores GenAI's potential to enhance learning, as well as the very real risks it poses to the fundamental mission of higher education, the production of authentically skilled and credible graduates. Through research, expert insights and a series of institutional case studies, it dives deeper into what practitioners and leaders can do to support students and faculty using GenAI in service of higher education's highest goal: promoting and certifying real learning.

Success in this new era means balancing innovation with safeguards, faculty support and mission alignment—and higher education can't afford to fail. ■

Mission at Stake: Preserving Learning and Credibility Amid GenAI Disruption

Credit: FG Trade Latin/E+/Getty Images

It's winter break in late 2022, and, like countless others worldwide, Kevin Yee is experimenting with ChatGPT, the GenAI chatbot released a month earlier. He asks it to complete an essay assignment, which it does "flawlessly," he later recalls. "Within 20 seconds, I knew we had a big problem in higher education."

"My heart sank," adds Yee, director of the University of Central Florida's Faculty Center for Teaching & Learning and now special assistant to the provost for artificial intelligence. "My vacation was over. I knew I had to create [a] webpage before faculty came back to work in January."

That page outlined how to "neutralize" GenAI, such as by crafting assignments focused on recent events not included in the large language model's (LLM) training data to that point, Yee says. It also suggested that faculty members could "lean in" to the new teaching opportunities GenAI offered, such as by having students edit or grade the model's outputs.

The page has since evolved into a body of work for Yee and many others across higher education. And while the conversations around GenAI in the classroom have become much more nuanced, practitioners and leaders continue to wrestle with whether, when and how to allow the technology into their classrooms—and what this shift means for the future of higher education itself.

Fuel to the Fire

GenAI for the masses arrived at an already challenging time for U.S. colleges and universities on the edge of demographic and demand cliffs. Pollster Gallup had also plotted a steady decline in U.S. adults' confidence in higher education since 2015, when it began tracking the sentiment.

Gallup did track a modest uptick in public confidence earlier this year: 42 percent of U.S. adults now say they have a great deal or quite a lot of confidence in the sector, compared to 36 percent in both 2023 and 2024. But while this is somewhat heartening, the majority of Americans continue to question the value of higher education and the credentials it offers. In a 2024 survey of some 5,000 U.S. adults by the Pew Research Center, for instance, 49 percent said that having a college degree was less important than it was 20 years ago (32 percent said it was

more important and 17 percent, about the same). In that same poll, four in 10 respondents said having a four-year degree was not too or not at all important to secure a well-paying job. Further complicating the longer-term value conversation: concerns about immediate college affordability and cost transparency, the booming microcredential market and the growth of skills-based hiring.

Colleges and universities must also now counter skepticism amid reports that AI is taking entry-level roles away from new graduates. While the evidence for that is still limited, one August study by three Stanford University researchers did find a 13 percent relative decline in employment among young workers in particularly AI-exposed occupations, such as software engineering and customer service. Other research portends an even bleaker future for the human labor market.

Yet the U.S. economy also faces a dire skills shortage "due to an unmet need for workers with the postsecondary credentials associated with in-demand skills," according to a September report from Georgetown University's Center on Education and the Workforce. The center estimates that the country will need an additional 5.25 million workers with postsecondary education through 2032—4.5 million with a bachelor's degree or higher.

"We have not seen significant evidence yet that jobs are being widely taken over by AI," says Shawn VanDerziel, president and CEO of the National Association of Colleges and Employers (NACE), sifting through the mixed signals. "That's not to say that there aren't certain job categories where that's happening—certainly there are—but it's not widespread."

GenAI also has appeared on campuses alongside a generation of students who missed out on the social and spontaneous side of school due to the COVID pandemic. Combined with public attitudes and anxiety about graduates' employment prospects, perhaps some doubts about the value of higher learning are understandable: Doesn't GenAI have all the answers anyway?

"There's been less willingness by students to just assume that what we're doing in college is useful," says Derek Bruff, associate director of the Center for Teaching Excellence at the University of Virginia and creator of the podcast *Intentional Teaching* and newsletter of the same name. "AI has essentially created a lot more spaces where students are like, 'But why do we need to know this? Why is this helpful?' It's incumbent on higher ed to have better answers to these questions."

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Derek Bruff, associate director of the Center for Teaching Excellence at the University of Virginia

Learning vs. Offloading

Faculty members may have their own questions—including about how GenAI use impacts students'

development of essential skills. A January study by Michael Gerlich, head of the Center for Strategic Corporate Foresight and Sustainability at SBS Swiss Business School in Switzerland, used surveys and interviews with 666 participants to explore links between AI usage and critical thinking. It found frequent AI users had significantly poorer critical thinking abilities, which Gerlich attributes to "cognitive offloading," or "when individuals delegate cognitive tasks to external aids, reducing their engagement in deep, reflective thinking."

"Imagine you're working with AI to improve a candle," he says in an interview. "It will help you to have the brightest light that will burn the longest, have the best design and will probably be the cheapest ever—but it will never make the step from candle to lightbulb."

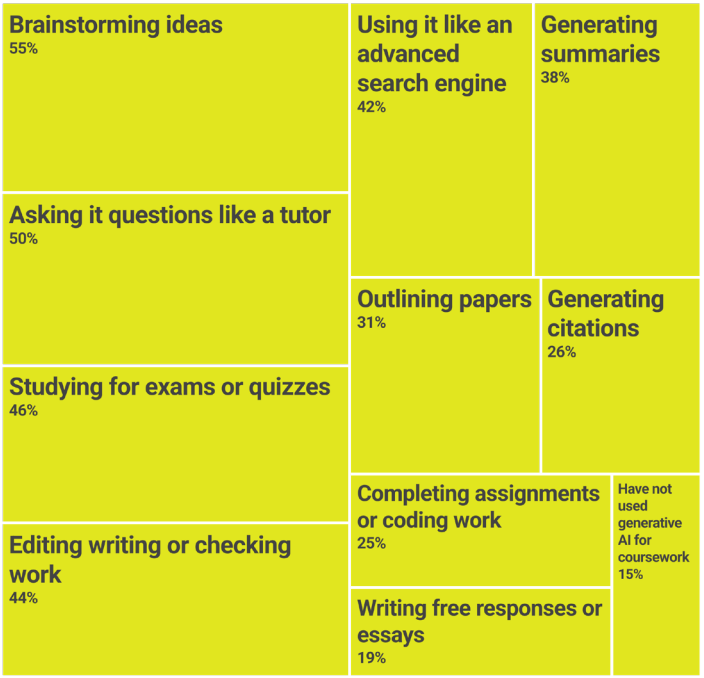
Students themselves are thinking about AI's impact on their durable skills. In a recent Student Voice survey of four- and two-year students by *Inside Higher Ed* and Generation Lab (n=1,047), more than half of respondents (55 percent) who had used AI for coursework in the last year said it's had mixed effects on their learning and critical thinking: It helps sometimes but can also make them think less deeply. Another 27 percent said that the effects have actually been positive. Fewer, 7 percent, estimate that the net effect has been negative, and they're concerned about overreliance.

The arrival of user-friendly GenAI has certainly expanded the ways savvy but disinterested, time-strapped, overly grade-conscious or otherwise disengaged students can dodge critical thinking. But how many actually do so, versus embrace the tool for learning? The answer is nuanced—and it varies.

In the Student Voice survey, a majority of respondents—some 85 percent—indicated they'd used generative AI for coursework in the last year. The top three uses from a long list of options were: brainstorming ideas (55 percent), asking it questions like a tutor (50 percent) and studying for exams or quizzes (46 percent). Fewer students reported using generative AI to complete assignments for them (25 percent) or write full essays (19 percent)—though students using AI to write essays were somewhat more likely than those using it to study to say that AI had negatively impacted their critical thinking (12 percent versus 6 percent, respectively). Community college students were also less likely than four-year peers to report using AI for coursework, for specific use cases and overall.

Using GenAI for Coursework

Students on what they've used generative AI for in coursework over the last year



Source: *Student Voice flash survey on AI, July 2025 • n=1,047 •* Inside Higher Ed *x Generation Lab.* ***Question:*** *In which of the following ways have you used generative AI (e.g., ChatGPT) for your coursework in the past year? Select all that apply.* ***Note:*** *~2% chose other.*

Earlier this year, the consultancy Tyton Partners surveyed 3,300 administrators, instructors and students, finding 42 percent of students and 30 percent of instructors used GenAI on a weekly basis. The survey identified a gap between faculty members who think their students primarily turn to GenAI for help when struggling with course content (29 percent, up from 16 percent in last year's survey) and students who say they do this (17 percent, down from 30 percent last year). The survey report suggests that over time, "students may have found that generative AI tools are more difficult to prompt than initially thought to help explain classroom concepts." Indeed, many more students report turning to static resources (58 percent) and especially people (84 percent) when struggling in a course. This is just one of several points in the survey that students express a desire for more human-centered experiences, including a growing preference for face-to-face courses.

As for faculty, Tyton Partners found that while AI offers efficiencies, many are "burdened by assessment redesign and concerns about academic integrity." Faculty and administrators were also split on whether GenAI is a benefit or a burden, and how its use should be regulated. Yet, both groups agreed that students need AI skills for future careers—and that "institutions should play a role in teaching them how to engage with these tools," according to the report.

Student Voice respondents agreed: Just 5 percent said that their college or university doesn't need to take action on preparing students for a future shaped by AI.

A parallel survey published this year by the nonprofit EDUCAUSE asked over 5,800 students how technological advancements were changing their experience of higher education. Nearly half of respondents—43 percent—reported not using AI for academic work. Top applications among reported users were brainstorming and idea generation, refining ideas or questions, and outlining and organizing. This is somewhat at odds with another EDUCAUSE survey of faculty and staff in which 74 percent said AI was greatly or somewhat impacting academic integrity at their institution—and majorities said coursework, assessment practices and curriculum design had been similarly impacted.

Reexamining College Value

These duelling data points may stem from students underreporting their GenAI use. They may also reflect the ambiguity of this moment in teaching and learning: About half of students reported receiving guidance on AI use, while the same share said most or all of their professors banned GenAI. "I don't know if we're getting the full story because [students] are scared and there's uncertainty—they don't know if they should be using it," says study co-author and EDUCAUSE researcher Nicole Muscanell.

The postgraduate landscape is similarly uncertain. NACE's VanDerziel says employers expect recent graduates to be familiar with GenAI, able to scrutinize its outputs and to make ethical decisions on its appropriate use—but that they "haven't clearly defined" how it will be used for specific roles. While the number of job listings requiring AI skills has increased "exponentially," VanDerziel adds, these are still in the minority—for now: "We do anticipate that over the next two to three years, this could change substantially as companies develop fuller plans on their own use of AI."

At the same time, employers still want the durable skills that have long been associated with a broad college education. When asked by NACE in its annual survey what they're looking for on resumes,

nearly 90 percent of employers said they're seeking evidence of candidates' ability to solve problems. Some 81 percent said they're seeking candidates who have strong teamwork skills, and 77 percent, written communication skills. Initiative and strong work ethic—in addition to technical skills—mattered to about seven in 10 employers.

Other in-demand attributes: verbal communication skills, flexibility/adaptability and analytical/quantitative skills. All of these, again, are associated with a broad education. They're also the kinds of skills that some experts say will be increasingly called upon in an AI world.

The rise of GenAI is already impacting how students themselves think about college value. EDUCAUSE's survey found that students at institutions with a cutting-edge approach to technology feel more career-ready. And *Inside Higher Ed*'s Student Voice survey captured mixed views: Some 23 percent of respondents said college is more important and relevant in the GenAI era. Fewer, 18 percent, said they question the importance of college more than they used to. Nearly another quarter (22 percent) said GenAI has changed how they think about college value, they're just not sure in what way, while the rest (35 percent) reported no change.

"Students by-and-large are understanding that the future is not going to just be AI all the time, but that AI is going to be an element of the future," says Jenay Robert, a senior researcher at EDUCAUSE.

Student engagement, perceived relevance of classroom content, and the focus on credible education over mere credentials were all under threat before the emergence of GenAI. And, while it has exacerbated these challenges, it offers new opportunities for leadership, innovation and building trust.

"AI is not creating any of these problems, it's just shedding a light on some of the things that we've been struggling with as a community for a very long time," adds Robert, citing trustworthiness of the institution and valuing human connection as two strategies that can help build institutional resilience—regardless of technological shifts. ■

Resource: Institutional Resilience Toolkit

EDUCAUSE defines institutional resilience as the critical ability to "anticipate, respond to and adapt to rapidly changing circumstances in ways that maximize opportunities and minimize impacts of unforeseen events." The group published a free toolkit for institutions looking to build resilience, from leadership to data to technical expertise.

According to EDUCAUSE, resilient institutions have seven key attributes:

- **Adaptive:** Adjusts quickly to change; promotes learning and flexibility.
- **Data fluent:** Uses data to inform decisions and support strategy; treats data as a strategic asset.
- **Decisive:** Acts swiftly in response to short- and long-term change, guided by strategy.
- **Led with courage:** Leaders act boldly and transparently, encouraging initiative and commitment even in uncertain times.
- **Interconnected:** Coordinates across units and builds collaborative relationships.
- **Prepared:** Uses scenario planning and risk assessment to align goals and enable quick action in dynamic contexts.
- **Trustworthy:** Fosters a culture of consistency, inclusion, collaboration, and trust—both emotional and digital.

In a related EDUCAUSE member QuickPoll in August (n=177), just 12 percent of respondents rated their institution as extremely resilient.

Cutting Through the Noise: What the Research and Practice Tell Us

Credit: Shinsei Motions/iStock/Getty Images+

Although GenAI is still a relatively young technology, there's no shortage of enthusiasm about its potential uses in the classroom. Interest surged after the release of ChatGPT, with one systematic review of studies from 2017 to 2023 finding 23 articles published on the topic in 2022 and 214 in 2023. The majority of research reviewed looked at GenAI as a support system for more administrative teaching tasks, such as generating banks of assessment questions. Other popular topics since 2017 include the use of GenAI for discipline-specific teaching, examining policies in higher education, or as an automated tutoring system offering feedback to large numbers of students, such as those studying modern languages.

Among the overarching themes in the literature: GenAI's potential to enhance learning, its impact on pedagogy and related ethical concerns. Another 2024 systematic review of 80 papers identified several recurring opportunities for instructors, including personalized and interactive learning and innovative teaching methods. That review also identified common challenges, such as the integrity of assessment, the accuracy of models and the potential disruption to users' critical thinking skills. In perhaps a sign of the giddiness of the young field, one study even asked ChatGPT itself what opportunities and challenges GenAI presents for teaching, finding it to be a somewhat opaque observer of its own abilities.

The picture is therefore complex, even for fundamental work that establishes students' actual usage of GenAI.

"If you read five studies on students' use of AI for schoolwork, you'll get five different numbers," says Robert of EDUCAUSE. The variability in students' usage of and attitudes toward GenAI is partly explained by the differences between the institutions they attend, which can include policies and access to GenAI as well as student-specific factors, such as their social and economic backgrounds, she notes.

The importance of context was also illustrated by the controversy surrounding a recent working paper by researchers at the Massachusetts Institute of Technology's Media Lab. They gathered brain activity data from 54 adults who produced short essays using either ChatGPT, a search engine or thought alone. Researchers found those in the Brain-only group registered the strongest neural activity, concluding that "the LLM group's participants performed worse than their counterparts in the Brain-only group at all levels: neural, linguistic, scoring." The paper quickly led to headlines such as, "Yet Another Study Finds That AI Is Making Us Dumb." But some critics, including UVA's Bruff, have questioned how well the experiment simulated well-motivated students' actual use of GenAI.

In an opinion piece in *Inside Higher Ed* in July, Bruff wrote, "If we're going to better understand generative AI's impact on learning, something that will be critical for higher education to do to keep its teaching mission relevant, we have to look at the best uses of AI and the best kinds of learning activities."

That research is happening, "thankfully," he continued, referencing a study finding that an AI tutor was more effective than active learning in an undergraduate physics class setting, "but we shouldn't expect simple answers. After all, learning is more complicated than vacuuming."

Bruff's own approach aims to anticipate and mitigate students' use of GenAI, but where possible steer them toward use that can enhance their learning. For him, all course design begins with an alignment of learning objectives, assessment and student activities.

Bruff previously proposed a set of six questions to help think through assignments in this new era:

1. Why does this assignment make sense for this course?
2. What are specific learning objectives for this assignment?
3. How might students use AI tools while working on this assignment?
4. How might AI undercut the goals of this assignment? How could you mitigate this?
5. How might AI enhance the assignment? Where would students need help figuring that out?
6. Focus on the process. How could you make the assignment more meaningful for students or support them more in the work?

"When I think of an assignment, I think of it in that context," he tells *Inside Higher Ed*. For Bruff, an instructor's decision on when GenAI is permissible in their classroom is shaped by both their discipline and the academic level of their students. He groups faculty as either red, yellow or green lights, depending on their endorsement of GenAI.

As a typical red light, he gives the example of scholar Cate Denial, who teaches history at Knox College and has written that she wants her students to engage in the "beautifully human work" of writing and editing without AI assistance. "Some faculty are like, 'AI is good for nothing,' and they have really only spent 20 minutes investigating what AI is capable of," Bruff says. "She's done the work to say, 'Look, these are the kind of close reading, document analysis skills that I want my students to develop. AI isn't going to help them do that.'"

Bruff's "green light" faculty take the "lean in" approach previously suggested by UCF's Yee. Bruff's colleague at UVA, Kiera Allison, who teaches management communication, has asked her students to choose an "impossible" persuasive task, produce a convincing class presentation with the help of AI, and develop a rubric to judge future student-AI teams' performance on the task, reflecting on how they and their bot assistant best contributed. "She's imagining: 'Here's what the students could do by themselves, here's what they could do with AI, so we're going to see if we can push students to do more than they could do before,'" Bruff explains.

Other faculty members may choose a "yellow light" compromise between the prohibition of Denial and the embrace of Allison. This could include process tracking for writing.

Wherever faculty members fall on the GenAI adoption spectrum, the best defense against inappropriate GenAI use is students' genuine desire to learn. While instructors should do everything they

Cutting Through the Noise: What the Research and Practice Tell Us (cont.)

can to make educational experiences engaging, a minority of students will always cheat, cautions EDUCAUSE's Robert: "If I'm doing everything I can to make that as meaningful as possible, and there are still a few students who just don't want to go for that ride with me, they are adults and they're going to make their decisions." ■

Beyond Offloading: Case Studies in GenAI for Real Student Learning

How to move beyond students simply offloading their work to GenAI? The following case studies highlight different disciplinary and institutional approaches to using the technology for real learning—starting with the University of Toronto's efforts to level the playing field in writing instruction.

University of Toronto

Credit: Arthur Kwiatkowski/University of Toronto

The University of Toronto has over 80,000 enrolled undergraduate students studying in over 700 programs. In psychology, associate undergraduate chair Kyle Danielson noticed students' unsanctioned use of AI tools in 2024 when he returned from sabbatical. "It really took off while I was away," he says.

Back as associate chair, he fielded many questions from colleagues about students' use of GenAI for writing assignments. He also noticed what he now describes as "a lot of inequity" between students who knew how to use—and could afford a subscription to—the latest models of popular chatbots and their peers, who were either not using them or using them "poorly."

Toronto has a relatively hands-off approach to AI use by undergraduate students, alerting them to issues of data protection, but not prohibiting its use, Danielson says. Students do have institutionwide access to an application powered by underlying LLMs, but the university allows instructors to decide what can be used in their classroom.

Ultimately, some students were using AI to produce full essays. In other words, "They're not really learning to write, they're just learning to rely on an AI to write for them," Danielson continues. "I wanted to try to level the playing field a bit and encourage the use of AI in a constrained way."

In the last academic year, Danielson started using a third-party, closed-system AI platform that provides evidence-based, formative feedback on students' writing at scale, among other services. "It meets them where they are and tries to help them improve," he says. While the tool does not provide a grade, students are able to resubmit after making changes. Danielson says his students report that their early drafts get more comments on grammar, while later rounds of feedback hone their argumentation and critical thinking.

With 2,000 students in one term, there is not enough capacity for the university's writing center to coach all of Danielson's students—nor do all his students

seek out such help. Danielson now requires his students to upload at least one rough draft to the new tool and to submit drafts and final versions to him, showing the changes made based on feedback. In this sense, GenAI is not assisting in producing a product so much as assisting in a process.

"It might not be as good as an excellent writing instructor on a good day. But it's consistently quite good, and doesn't miss much," Danielson says. He adds, "I don't really see it as a replacement, because there isn't the capacity to give that level of individual attention in a class that size."

Would he consider making such a process-oriented tool compulsory for future first-year students? Yes, though he's undecided about more senior students. He thinks the university needs to provide training that enables faculty to use tools in a discipline-specific way, rather than the current "Wild West of hodgepodge," where faculty experiment with tools as they go.

It might not be as good as an excellent writing instructor on a good day. But it's consistently quite good, and doesn't miss much. I don't really see it as a replacement, because there isn't the capacity to give that level of individual attention in a class that size.

Kyle Danielson, associate undergraduate chair in psychology at the University of Toronto

Arizona State University

Arizona State University has a size problem. It would be "insanely expensive" to buy access to the plethora of AI tools available for all of the hybrid institution's over 180,000 students and 6,000 faculty members, says Stuart Rice, executive director of learning experience. Their solution is CreateAI, a secure internal platform for the creation and exploration of custom AI tools. It serves as a "backbone that allows people to build projects on top of various different models," Rice says. For now, that mostly means faculty-made chatbots, but there are plans for other applications, such as image generation.

One of the early example projects that faculty can make with CreateAI is a Syllabot, which allows students to query their course syllabus. "It's a wonderful first move for faculty around integrating AI with their course, their teaching and learning, and also creates a dynamic relationship between the student and this process," Rice says.

He notes that the university is encouraging community around GenAI, including via a 750-member, mostly faculty, Slack channel for users of CreateAI. It's an "important part of our strategy, because we own and can talk about the tool in a very concrete and controlled way," Rice adds.

One of the advantages of a single platform like CreateAI is that it helps ensure a consistent approach to data safety and privacy across users. ASU also has a traffic light–style system for GenAI and learning. It signals "green," for instance, for use cases in which students and faculty can "charge ahead," Rice says: students using chatbots for ideation and brainstorming, or faculty building chatbots trained on course materials and restricted from giving students direct answers.

ASU also has uniform statements from which

faculty members choose when setting their expectations for student GenAI use for a specific course or assignment. "We try to provide consistency in the language first and foremost, and then as we continue to embrace AI as a positive force, thinking about how we create consistent experiences for the learner," Rice says.

He adds, "We are thinking actively about how we create unified expectations while ensuring that faculty have the flexibility to set policy at the course level." Nearly 3,500 faculty members have attended workshops run by the university's Learning Experience team: "Our goal is to support everyone on that curve without creating mandates."

The university also runs AI challenges, with funding and access to additional AI tools at stake. Innovations thus far include a chatbot that allows students to practice conversational German, French and Spanish, and adjusts to their proficiency level.

While one of the goals of CreateAI is to manage costs and the rollout of GenAI across the university, ASU also has enterprise licenses to other tools. Rice expects AI to be built into almost all education technology tools used in the classroom in the years ahead, and he attributes ASU's human-centered approach to its wider goal of principled innovation: "Our thinking process here is that AI is augmenting human intelligence and human performance. That AI is in service to greater outcomes, greater inclusion, greater accessibility to the resources of the university." Quick AI tool adoption paired with strong institutional guidance and support structures have also helped, he says.

Auburn University

Auburn University is a public land-grant institution with just over 25,000 undergraduate students. Asim Ali is executive director of the university's Biggio Center for the Enhancement of Teaching and Learning, which is also responsible for instructional design for online teaching.

The center developed and launched a faculty training course in 2023 called Teaching with AI, which has since been adopted as a resource by members of the Southeastern Conference of universities and Alabama community colleges. It is also delivered as a two-week online program by EDUCAUSE and has been taken by over 15,000 faculty worldwide. Ali says the course is part of a "three-pronged" approach that seeks faculty understanding of AI, collaboration between faculty and partnering with students.

It's critical that students see for themselves how faculty are making decisions about AI in the classroom, Ali says. "This is not the only time there'll be some kind of disruptive technology that comes out, so helping our students actually get a firsthand

Guiding Tenets for AI

Arizona State University, widely considered a leader in AI integration, prioritizes equity, privacy and human-centered design. All solutions undergo a common process evaluating accuracy, privacy, clarity and performance. This includes an AI model and human in-the-loop evaluation. The university has five guiding tenets for its use of AI:

- AI is a powerful technology and will be an enduring part of the innovation landscape for the foreseeable future.
- Harnessing the power of AI brings the responsibility to innovate in a principled way, centering our charter and values of inclusion and access.
- AI can support human intelligence and capabilities, rather than replace them, to promote equal access to creativity and amplify potential.
- We have a responsibility to our community to keep pace with the rapid progression of AI.
- This technology must be easily accessible to people from diverse backgrounds to bridge accessibility gaps.

experience of how we navigate that as disciplinary experts is also a valuable learning experience." To encourage faculty collaboration, Auburn has a showcase for different disciplines to show how they've adapted assignments to AI.

Ali teaches a required introductory course every semester for about 130 business majors on information systems management, in which GenAI looms large. "I wanted to make sure that my students knew what it was, and for me to understand the impact it would have on the assignments that I had designed for my course," he says. Ali takes an assignment-by-assignment approach, with specific guidelines for each stating the acceptable use of AI and providing justifications for why.

He also includes suggested GenAI prompts, which can help students personalize assignments to their career aspirations. "Because I have students from so many different majors, it allows me to make the content more appealing and relevant to whatever their professional interests may be," he says.

This is not the only time there'll be some kind of disruptive technology that comes out, so helping our students actually get a firsthand experience of how we navigate that as disciplinary experts is also a valuable learning experience.

Asim Ali, executive director of Auburn University's Biggio Center for the Enhancement of Teaching and Learning

Ali requires students to submit 30-second videos instead of written responses to some assignments that do allow the use of GenAI. These do a better job of preparing students for professional presentations and are faster to grade than conventional written work, he says. "We have a responsibility working in higher ed to always be exploring those forces of society that are impacting what's happening in our students' lives and being able to make sense of those in a disciplinary context in our classrooms."

Auburn has no policy explicitly governing classroom use of AI, but has others for data protection that govern its use. The Biggio Center encourages professors to make transparency statements laying out where both faculty and students are allowed to use AI. Ali says it's "healthy for the students to see an expert discovering things. That's part of an exciting way of learning, when it feels more like a lab approach to a lecture class."

About a quarter of Auburn faculty members are "very open" to students using GenAI, Ali estimates, while a quarter are "focused on limiting its use" and about a half are "actively exploring constructive ways of using it." Of that latter group, he says many swing between the potential and the limitations of the technology as they draw boundaries in the classroom: "It can be exhausting, but it's a very productive place to be."

Demonstrating the gray areas of acceptable use, Ali gives the example of word processors, which have long offered spelling checks, and some of which now offer AI-powered grammar checks. "If I do a Google search for synonyms of a word, and then a student who has come of age doing that same search in ChatGPT—does that somehow make it a nefarious approach?"

In one 2024 survey of provosts, presidents and

other senior leaders by the American Association of Colleges and Universities and Elon University, respondents didn't always agree on whether hypothetical scenarios described appropriate uses of AI. In one example—in which a student used AI to generate a detailed outline for a paper but then wrote the paper on their own—the verdict was split.

As for students, Ali says that most he's interacted with "are very thoughtful in terms of how they exercise that agency. They don't want to use generative AI for making assignments easier." Those students who do use AI inappropriately do so for the same reasons as students who cheated prior to GenAI, he says: exams that are too high stakes, learning that is not scaffolded and so requires leaps of understanding, and grading rubrics that are too complex to understand.

Students turn to AI when they "don't see the purpose of the assignment, or they see it as busywork, or it seems particularly daunting," Ali adds. "A reasonable response is to design and assign better assignments."

The University at Buffalo

Credit: Douglas Levere/University at Buffalo

At the University at Buffalo, part of the State University of New York system, AI is a tool, an object of study and now the subject of an entire department: This fall, the university is launching seven bachelor's degree programs delivered by existing arts and sciences programs along with the new department of AI and society (AIS). The programs, from AI and geospatial analysis to AI and responsible communication, are modelled somewhat after popular joint computer science degree, or "CS + X," programs. Two minors are also offered.

Course credit is split between students' home discipline and the AIS department, which will split its own teaching between the technical and societal aspects of AI. The AI courses are designed to have the minimum of prerequisites, with math requirements limited to a few semesters of calculus.

"We tried to make sure the barrier of entry is pretty low. We are really looking for folks who would typically not take an AI degree, like linguists," says Atri Rudra, Katherine Johnson Chair in Artificial Intelligence in the department of computer science and engineering, and inaugural chair of AIS. The majors are open to transfer from students' enrolled in existing programs, but students may take single courses offered by the AIS department.

UB began funding small faculty projects to integrate GenAI into courses across the university last spring. Rudra welcomes the autonomy faculty are given to experiment with applications in their classrooms, with schools and departments now trying to gather individual efforts into shared repositories that others can draw on. His personal view is that students'use of GenAI should shift as they move through the curriculum, with more senior students' given more latitude as they master core concepts.

To Rudra, the biggest risk of GenAI in the classroom

Beyond Offloading: Case Studies in GenAI for Real Student Learning (cont.)

is students trying to sidestep the inevitable cognitive struggle of learning. “Students and many folks think of understanding as just downloading information, but understanding material is really you interacting with that information—which means you need to struggle pretty much by definition,” he says. Still, he says he’s open to his advanced computer science students using AI as a “productivity tool” for tasks and processes they already understand, the “grunt work” that they did themselves as freshmen (think importing data or changing its formatting).

UB’s work is part of a larger, state-backed AI initiative within the SUNY system. Starting next fall, courses that satisfy the system’s information literacy core competency will be adding lessons about AI ethics and literacy. Related earning outcomes now state that students will “demonstrate an understanding of the ethical dimensions of information use, creation and dissemination” extending to “emerging technologies, such as artificial intelligence.” ■

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Atri Rudra, Katherine Johnson Chair in Artificial Intelligence in the department of computer science and engineering, and inaugural chair of AIS at the University at Buffalo

Further Considerations: Guardrails and Supports

Thoughtful use of GenAI in the classroom requires considerable effort from faculty and buy-in from students. These can both be bolstered by a shared institutional response to the challenges and opportunities the technology presents. The institutions included in this report have largely avoided a unified AI policy governing GenAI use in the classroom, and instead regulated its use through existing data and technology ethics policies—empowering individual instructors to draw an appropriate line. But leadership can still set a clear direction and provide support.

The University of Central Florida established a provost's task force in 2023 to decide its institutional response, including training for faculty. The group's top recommendation was to appoint a single person for AI on campus to connect disparate efforts. UCF's Yee, the first postholder, drafted a set of principles for AI use and then sought extensive feedback from colleagues. These guiding principles, which orbit the idea of graduates' "AI fluency," will be developed further by an AI governance council. The university also recently launched the Institute of Artificial Intelligence, calling it "a bold initiative that will elevate UCF's leadership in this transformative technology."

Flexibility and Clarity

Although teaching and learning centers have been key to spreading best practices around classroom AI use, UCF and other institutions have moved away from centralizing expertise and toward crowdsourcing disciplinary approaches—such as through regular faculty spotlights where instructors present their own best use cases. Some run regular virtual meetings, have dedicated channels on internal messaging platforms and host international conferences to establish communities of practice.

At the same time, faculty and students need clarity on what appropriate GenAI use looks like—and ways to validate real learning. The use of transparency statements for specific courses and assignments can allow faculty to show what is permitted, and students to declare how they have used GenAI, helping them reflect on its contribution to their learning. EDUCAUSE's Muscanell also highlights the University of Sydney's "two-lane" approach to AI and assessments: those that are "secure" and forbid the use of AI except with express permission (typically at the program level, in person), versus those that are "open" and allow the free use of AI,

provided students acknowledge its use (typically at the unit level).

"We need to get students and faculty on the same page," says Muscanell. "The longer we have these classroom cultures of uncertain guidelines and prohibition, the longer that students are going to be behind on learning the AI skills they're going to need for the workforce." EDUCAUSE's Robert adds that academic departments need to speak with the industries their students graduate into to better understand the rapidly shifting expectations around graduates' GenAI skills.

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>
> **Nicole Muscanell**,
> researcher at EDUCAUSE

VanDerziel, of NACE, notes that all industries are investigating and experimenting with AI tools and discovering pain points. "It really does behoove colleges and universities to be talking widely to experts in a variety of fields—particularly if they are in disciplines like the humanities or liberal arts, because their students are going to be applying to and obtaining jobs across industries."

Access and Mission Alignment

For those institutions wanting to fine-tune their workforce alignment, Robert says student surveys are also a must: "For any institution reading this report and saying, 'I wonder if my students would feel more prepared for the workforce if we provided more robust support with AI tools?,' that's a great question to ask your students—and to collect data about in your local context, because there's no national or international study that will be able to speak to what is exactly happening at your institution."

College and university leaders must also be aware that AI can be both a remedy and a cause of workload pressures on staff and faculty. The American Association of University Professors has criticized AI adoption and professional development efforts where clear evidence of positive outcomes for productivity, pedagogy and learning are lacking. Relatedly, the group has underscored the need to collect and share institutional data demonstrating the benefits of adoption.

Many in and around higher education have also warned that access to GenAI, or lack thereof, can widen the preexisting digital divide between institutions and among individual students. EDUCAUSE's Robert cautions that even "institutional differences will trickle down to student experience." UCF's Yee argues that enterprise licences for vetted AI tools can "level that playing field" between students who can afford a subscription to a specific AI tool and those who cannot.

In *Inside Higher Ed*'s 2025 Survey of College and University Chief Academic Officers with Hanover Research (n=478), about half of provosts said that their institution grants students access to dedicated GenAI tools, either through an institutionwide license (26 percent), limited access through specific programs or departments (17 percent), or

Further Considerations: Guardrails and Supports (cont.)

custom-built options (3 percent). Much of the remainder were considering providing such access (31 percent). This was generally consistent with what chief technology officers reported in their own *Inside Higher Ed* survey earlier in the year. Experts generally tout the equity, pedagogical and privacy implications of this kind of institutional access over commercial chatbots students can (and do) otherwise access.

Fundamentally, institutions must look first at their mission and character to decide how to best support faculty and enhance learning, says Auburn's Ali: "It's not just about generative AI. It's about first, what is your culture and character as an institution? What are your students coming to you for, and what are your faculty most interested in, in terms of their research and teaching? How do we, as institutions, first find confidence in who we are? Then any kind of disruptive technology is not going to be disruptive—it's going to be enhancing." ■

Action Guide

Institutions must lead in this new era of teaching and learning, but leadership looks neither like rigid policies nor one-off responses. The following action guide is designed to help colleges and universities navigate the urgency and uncertainty of this moment by embracing flexible use frameworks, ensuring equitable access to GenAI tools and encouraging knowledge-sharing among practitioners and others, along with innovative assessments. Also required: engaging with technology and other partners and monitoring the impact of GenAI on institutional stakeholders. This reckoning demands that institutions take action on GenAI that reflects institutional values, empowers instructors and—most importantly—prepares students for the challenges and opportunities of a changing world.

- Avoid rigid AI policies in favor of flexible institutional frameworks that empower individual instructors by providing clear guidelines. Focus on creating shared institutional responses to both challenges and opportunities presented by GenAI in the classroom.
- Address safety and equity concerns by providing institutionwide access to vetted AI tools through enterprise licenses. These can level the playing field between students who can afford premium AI subscriptions and those who cannot, while mitigating the institutional risks posed by unknown platforms.
- Establish knowledge-sharing venues for faculty to regularly exchange best practices as they evolve. These could be monthly virtual meetings, annual conferences or digital chat channels to build a community of practice for GenAI use.
- Increase engagement with industry partners across a variety of sectors to understand AI requirements for graduates as these develop. This applies to all fields, including those in the humanities and liberal arts, whose graduates may work across diverse industries.
- Consider a stepwise classroom integration strategy, in which student use of GenAI expands as they advance through their studies. Convene program organizers to align requirements as far as possible.
- Ensure assessment redesign does not reproduce common triggers for academic misconduct, including high-stakes exams, unclear grading rubrics and perceived busywork. All assignments must clearly demonstrate their value to students through relevance, such as to career readiness.
- Use task forces to ground AI integration decisions in your institution's core mission and character. Take into account student demographics, faculty research interests and teaching priorities to help stakeholders understand the technology as an enhancement, as well as a disruptor.
- Regularly monitor and evaluate the impact of AI integration, including on faculty workload, by gathering institutional data. This can demonstrate the costs and benefits of AI adoption and inform professional development requirements to ensure productive implementation. ■

Conclusion

Authentic student learning remains the core mission of colleges and universities. GenAI will undoubtedly alter how genuine learning happens, and protecting that process means keeping a close eye on how and why various tools are integrated into a given program, class or assignment. Such decisions must lie with instructors themselves. But shared approaches to communicating the rationale for GenAI use can offer clarity and reassurance to students, who will have to make similar decisions on their own throughout their working lives.

Ultimately, GenAI must be bent to serve the mission of higher education, not the other way around. ■

About the Author

Ben Upton is a freelance journalist based in Washington. He served as *Times Higher Education*'s Europe reporter between November 2021 and October 2023 and previously covered European research policy for *Research Professional News*. Before graduating from City, University of London's journalism school in 2017, he worked in academic publishing and taught at a private university in Wuhan, China.

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