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Artificial Intelligence as a University Graduation Requirement: Advantages, Disadvantages, and Opportunities

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Abstract

Universities have continually adapted curricula to equip students for the intellectual and professional demands of their era. The rapid diffusion of artificial intelligence now creates an inflection point, reshaping work, civic life, and everyday decision-making in ways that higher education cannot ignore. This article argues that institution-wide AI graduation requirements can advance core university aims by improving career readiness, strengthening ethical judgment, expanding equitable access to technological understanding across majors, and fostering interdisciplinary learning. It also examines practical and pedagogical concerns, such as already crowded degree plans and the substantial staffing, infrastructure, and support needed for effective implementation. Situating the debate within the historical evolution of general education and drawing lessons from earlier computer literacy requirements, the article proposes a flexible menu of approved courses that collectively develop AI concepts, skills, and critical perspectives. Emerging examples, including recent initiatives at Purdue University and The Ohio State University, illustrate how requirements can be embedded in curricula with workforce emphasis. Increasing AI adoption and use across a broad spectrum of professional domains tilt the case toward adopting artificial intelligence graduation requirements, provided the implementation of these requirements properly addresses capacity, equity, and ethical issues.

Keywords: artificial intelligence; university graduation requirements; general education; career readiness; workforce preparation; fairness in AI usage; privacy; bias in AI models; technological equity; interdisciplinary innovation in higher education

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1. Introduction

Universities have long sought to prepare students for the intellectual and professional demands of their time. General education and graduation requirements have shifted as the needs of society and the workplace have changed. As artificial intelligence becomes increasingly embedded in society and professional work, universities will continue this evolution and consider the extent to which graduation requirements can be and should be updated to reflect the need to prepare students for the AI-related challenges and opportunities that will arise in their personal, professional, and civic lives. The following sections will discuss an argument in favor of university AI graduation requirements, arguments against AI graduation requirements, the history of general education in the United States, the relationship between general education requirements and AI graduation requirements, a history of computer literacy graduation requirements, a workforce preparation justification for AI graduation requirements, existing approaches, and a proposed way forward.

2. An Argument in Favor of University AI Graduation Requirements

As artificial intelligence (AI) profoundly shapes the nature of work, society, and daily life, universities stand at a critical juncture (Bankins and Formosa, 2023; Hoffman et al., 2025). Naturally, consideration of graduation requirements across all majors may arise as institutions explore ways to ensure that all students gain foundational knowledge of AI technology, applications, and ethical issues. Potential advantages of adopting AI graduation requirements include improved workforce preparedness, enhanced critical thinking, improved ethical reasoning (Aston, 2024), the promotion of equity (Gayed, 2025), and multidisciplinary innovation.

Perhaps the most compelling advantage of AI graduation requirements is equipping graduates with skills directly relevant to current and future job markets. AI is found in everything from healthcare diagnostics and financial modeling to automated vehicles and smart personal assistants. By making AI education mandatory and universal, universities help bridge the gap between academia and industry needs. Students with AI literacy (Wang et al., 2025) are better prepared for roles in fields ranging from business and engineering to social sciences and the arts. Even if they do not become AI specialists, every graduate is likely to interact with automated systems, algorithms, and data-driven decision-making in their chosen profession. Students who are prepared with AI-related knowledge and skills are likely to compete more effectively in the labor market upon graduation and advance more rapidly in their careers.

While workforce preparation is an undisputed role of universities in society, an even more important aspect of a university education is preparing students for the ethical dilemmas they will face in their professions, as citizens, and as members of their families and communities. AI-based systems and algorithms introduce complex questions regarding fairness, privacy, bias, and accountability; and these issues will confront graduates entering all professions. AI graduation requirements ensure students are exposed to these ethical considerations, enabling them to question the societal impacts of new technologies. By integrating ethics into AI education, universities promote responsible innovation and informed citizenship. Students learn to ask about the impacts of AI-based algorithmic decisions. For example, questions of the causes, detection, effects, and reduction of bias can be considered (Daneshjou R, 2021). These debates are fundamental for a society that is increasingly governed by opaque and powerful algorithms.

Requiring AI literacy and preparation for all students democratizes access to technological knowledge while reducing disparities between technical and non-technical majors. It ensures humanities, arts, and social science students are not left behind as AI revolutionizes their fields. This broader approach promotes equity, making every graduate fluent in the language of contemporary technology as well as prepared to challenge, shape, and engage with AI rather than merely consume its outputs.

Finally, AI is inherently multidisciplinary. It intersects with linguistics, philosophy, psychology, law, medicine, and other academic disciplines (Dignum, 2019). Mandatory AI education fosters collaboration across diverse fields and encourages students to apply AI concepts in creative and meaningful ways. For example, a musician might use AI to analyze trends in composition, a political science major may use it to study public opinion, and a nurse may use AI to improve patient outcomes. Broad adoption of AI requirements helps cultivate a culture of interdisciplinary problem solving, which may, in turn, spark new ideas and innovative solutions that might not otherwise emerge.

Adopting AI graduation requirements offers universities far-reaching advantages such as aligning curricula with workforce needs, instilling ethical awareness, promoting technological equity, fostering interdisciplinary innovation, and

enhancing institutional standing. In a world shaped by intelligent machines, such strategies help ensure that every graduate is prepared for a variety of roles in their professions and communities.

3. Arguments Against University AI Graduation Requirements

While there are advantages of AI graduation requirements, a consideration of potential drawbacks is needed before adoption. First, university graduation requirements often incorporate very little slack, and degree requirements can be packed. By the time students complete general education requirements, requirements of their majors, electives, and other requirements, they may have very few remaining credit hours available. This is especially true of transfer students who may have credits on their transcripts that do not directly meet any requirements. Federal financial aid regulations limit the extent to which students can receive financial aid for incremental credit hours beyond those required for degree completion. For students in some professional programs, such as engineering, incremental course requirements can lengthen the time needed for degree completion and may impose burdensome costs related to tuition, fees, and living expenses. Students may also prefer to devote any slack credit hours to the pursuit of personal interests rather than an additional AI-related graduation requirement.

Another potential downside of AI graduation requirements is the significant human and technological resources needed to implement the requirement. Faculty must be recruited and trained, and cutting-edge technology must be deployed to make the requirement meaningful and helpful to students post-graduation. An AI graduation requirement may also be unappealing to students who simply are not interested in the topic or even philosophically opposed to using AI tools (Chan and Hu, 2023).

4. The History of General Education in the United States

The role of general education graduation requirements in universities in the United States has evolved. In general, its goals have been to develop broad intellectual skills and knowledge in graduates, regardless of their field of study. As societal values and priorities, philosophies of education, and the labor market have evolved, so too have general education requirements (Zai, 2015).

In the early days of university education in colonial America, private universities such as Harvard and Yale adopted educational choices similar to those in Europe. Students focused on topics such as Greek, Latin, and mathematics, and much of the curriculum was what we would now call general education. Later, students were allowed more choice and intellectual freedom, and as land-grant universities developed, the curriculum continued to evolve to include topics such as engineering and agriculture. General education began to focus on what all students should study across a broad spectrum of specialized options. As general education requirements matured, the focus was often on knowledge in the humanities, social sciences, and natural sciences, as well as skills and dispositions such as critical thinking and preparation for community and national citizenship. Further evolution of general education requirements has broadened this component of the curriculum to include a wider range of perspectives, more integration across disciplines, ethical and critical thinking, and global issues and perspectives (Warner and Koeppel, 2009). Increasingly, students choose from a menu of courses that focus on learning outcomes related to these perspectives, and often a single course is allowed to fulfill two or even more general education requirements.

This framework for graduation requirements opens the door to consideration of AI graduation requirements, with one possible approach being the creation of a menu of course options addressing AI-related concepts, skills, and perspectives.

5. On the Relationship Between General Education Requirements and AI Graduation Requirements

General education requirements are designed to ensure that students attain a broad educational foundation that will enable them to participate as members of society and their chosen professions. Students receive a well-rounded education, including areas such as composition, mathematics, humanities, social sciences, natural sciences, critical thinking, cultural awareness, and so forth. As AI literacy becomes increasingly important in society and in the workplace, educational priorities may shift to include AI graduation requirements. Arguably, students will face an environment in which AI is present in the devices they use, the algorithms that affect them, and the jobs they perform. A well-rounded education will likely help students understand and navigate AI technologies.

As awareness of AI-related issues and competencies spreads, universities are debating and considering whether to implement formal AI graduation requirements. This requirement may be included in general education requirements, especially in the current environment in which many general education requirements can be satisfied through a menu of

course options, some of which may count for major or other requirements. An approach that allows students to fulfill AI graduation requirements using a single course that also fulfills another graduation requirement may prepare students for their future roles without requiring additional credit hours, delaying graduation, or increasing costs. Furthermore, this approach may encourage faculty to design and deliver courses that focus on AI learning outcomes along with other goals and objectives of their courses. A course focused on social aspects of AI might simultaneously fulfill an AI graduation requirement and a social sciences requirement. Likewise, a machine learning course might simultaneously fulfill an AI graduation requirement and a quantitative thinking graduation requirement.

6. A History of Computer Literacy Graduation Requirements

University experiences with graduation requirements focused on computer literacy provide a lens through which AI graduation requirements can be viewed. As computers began to proliferate, it became clear that students would need to develop the skills needed to use this technology across many work domains (Hindi et al., 2002). In addition to basic digital skills, a focus on using computers for strategic advantage in the workplace emerged. Universities began by offering elective courses, often focused on computer programming. Over time, in part because of employer requests, universities incorporated computer literacy into mandatory parts of the curriculum in various ways. During the 1990s, as the Internet became more prominent in daily life, course requirements tended to shift toward the use of productivity software and navigation of the Internet. In some institutions, as this technology continued to mature, computer literacy instruction moved into majors and was customized to specific professional needs (Johnson et al., 2006). Many universities and majors no longer include explicit computer literacy graduation requirements because students bring a base level of competence from their earlier experiences, and computer-related fluency is an expected part of many required courses across the university.

7. A Workforce Preparation Justification for AI Graduation Requirements

While there are both advantages and disadvantages to AI graduation requirements, an increasingly AI-infused workplace shifts the argument toward such a requirement. As students enter a workplace in which collaboration with AI-agents will be common and employees will focus less on routine work and more on impactful work with strategic importance, AI-based competency emerges as an important aspect of education for all (Bonney, 2024). This shifts AI graduation requirements from an incremental curricular innovation to a necessity for future career preparation. AI-based agents and related algorithms will impact many job sectors, and students without preparation in this domain are likely to struggle to attain entry level positions and progress in their careers. As AI literacy becomes as critical as computer literacy once was, the justification for AI graduation requirements becomes clear.

Such a graduation requirement ensures that students across majors have access to this preparation. This opens opportunities for all and prepares students for an environment in which interdisciplinary innovation and collaboration will be essential aspects of the workplace. An AI graduation requirement also builds student adaptability and resilience as they contend with technologies that are rapidly changing. Graduates who have AI-related competencies will be better prepared to adapt to new jobs and careers as they learn new technologies and software and develop the ability to understand the inputs and outputs of AI. Additionally, AI graduation requirements promote ethical problem-solving. Students will be better prepared to consider issues of privacy and bias in AI systems. A basic understanding of the fundamentals of AI will help students consider these issues in more concrete ways rather than as abstractions. This, in turn, will help them understand and mitigate risks and foster a more calibrated understanding of trust in AI systems and algorithms. As employers increasingly list AI skills as requirements on job postings, universities with AI graduation requirements will help students meet the requirements of the workforce into which they will graduate.

8. Existing Approaches

Purdue University and The Ohio State University, among others, have recently adopted AI graduation requirements that embed AI education into the curriculum with a focus on workforce preparation.

Purdue University is introducing an “AI working competency” graduation requirement for undergraduate students effective Fall 2026. The requirement is aimed at workforce and employer needs and focuses on the development of critical thinking skills needed to understand and use AI effectively (Purdue unveils, 2026).

The Ohio State University has announced that it is incorporating AI into its curriculum and graduation requirements by integrating AI into its general education requirements through an initiative called the AI Fluency initiative (AI

Fluency, 2026). This initiative is effective with the class of 2029 and focuses on AI fluency from the perspective of professional preparation. Students will encounter AI in their first "Bookend" course, which is a 1-credit seminar that students take early in their program to fulfill a general education requirement (AI Fluency, 2026; The Ohio State University, 2026). Consistent with widely adopted general education strategies and practices, six learning outcomes related to AI have been defined and are listed below verbatim.

"Explain foundational concepts such as artificial intelligence, large language models, machine learning

Explore the potential benefits and limitations of common AI applications in the context of a chosen field

Evaluate the types of inputs and outputs foundational to AI systems — including data, prompts, commands and emerging modalities — and explain how input form and quality influence output quality, performance and reliability

Use AI tools to accomplish specific goals in the field of study, and critically assess outputs for accuracy and relevance to the task

Design innovative applications of AI within a discipline, supported by a rationale for the potential value and feasibility

Explore the implications (ethical, societal, environmental, legal, practical) of AI use cases and develop reasoned recommendations for responsible implementation within a field of study" (AI Fluency, 2026)

9. Conclusion

Universities have repeatedly revised graduation expectations to meet the changing intellectual and professional realities facing students, and the present moment calls for a similarly deliberate response to artificial intelligence. As AI systems increasingly mediate how people work, learn, communicate, and make consequential decisions, the question is no longer whether universities should address AI, but how to do so in a way that aligns with the purposes of general education. The case for an AI graduation requirement rest on more than labor-market signaling. Rather, it reflects the responsibility of higher education to ensure that all graduates can interpret, evaluate, and appropriately use AI-enabled tools and claims. Done well, such a requirement would support workforce preparation while also cultivating ethical reasoning, civic capacity, and informed participation in communities where the use of AI is becoming pervasive and mandatory rather than optional.

At the same time, the advantages of an AI requirement do not erase the real constraints institutions face. Degree programs often have limited room for additional mandates, and meaningful AI education demands substantial human expertise, technological infrastructure, and ongoing support. These implementation challenges are precisely why the most viable path forward may be a flexible general education model, such as a curated menu of courses spanning disciplines and levels that develops shared competencies while respecting program differences. Historical experience with computer literacy initiatives suggests that campus-wide requirements can succeed when they are adaptable, adequately resourced, and grounded in broad educational aims rather than narrow tool training. Early adopters, including Purdue University and The Ohio State University, indicate that embedding AI learning into existing curricula is feasible, especially when paired with clear outcomes focused on both practical capability and responsible judgment. In an increasingly AI-infused workplace and society, the balance of considerations ultimately supports moving toward an AI graduation requirement, provided institutions design it to be equitable, interdisciplinary, and ethically rigorous.

That said, similar to the evolution of computer literacy graduation requirements, AI graduation requirements may be a time-limited feature of university curricula as students, employers, and society adjust to AI-based technologies and the ethical and social issues they raise. While many students have some exposure to AI and use AI tools for some applications, AI-based graduation requirements may serve to boost skills and improve the future employability prospects of graduates. Additionally, AI graduation requirements may ensure that graduates across a wide variety of intellectual and professional domains are prepared to address ethical and social issues related to AI and craft a future in which the benefits of AI are shared across members of society and drawbacks are well managed and limited.

10. Overview of the Contents of this Issue

This issue of the journal includes three other articles. Steven Schilhabel, John Muraski, Meena Subedi, and Balaji Sankaranarayanan, in their timely and interesting article, examine the implications of using Generative AI (GenAI) for students' stress, anxiety, understanding, and perception of fairness during classroom instruction. The results of their analysis and results may serve as a roadmap for faculty interested in using GenAI in teaching and learning, as well as provide guidelines for faculty development and instructional design related to this area.

Katryna Johnson, in her timely and impactful article, examines the progressing function of GenAI in business education. Her article presents a three-dimensional framework for integrating GenAI in business education and provides a road map to do so.

Tood Little, in his interesting article, looks at the paradigm shift that is creating challenges to the established organizational knowledge management due to the vibe coding development and its implications. Based on an extensive literature review, the article suggests the need for further studies looking at vibe coding and general perspective of knowledge management.

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