Employer Expectations for AI Fluency: Strategic Insights from Lehigh's Employer Partners

I. Introduction

The Center for Career & Professional Development (CCPD) is committed to preparing students for a rapidly evolving workforce. As AI becomes increasingly embedded across industries and job functions, it is vital for students to not only understand AI concepts but also demonstrate fluency and ethical awareness in using AI tools. In summer 2025, CCPD conducted qualitative outreach with 15 employers representing a range of industries to better understand the expectations for AI literacy among entry-level hires. The insights gained informed the design of LinkedIn Learning pathways aligned with employer demand.

II. Objectives

This outreach initiative was designed to accomplish the following objectives: (1) Identify how employers across industries are currently using AI in their workplaces; (2) determine the specific skills and mindsets that employers seek in new graduates; and (3) gather recommendations on how Lehigh can better prepare students to work in AI-enhanced environments.

III. Summary of Findings

Insightful information and interesting results regarding AI tools and utilization within the workplace were gathered from the qualitative research conducted over a three (3) week period of time this summer. Employers across all industries indicated skill sets at varying degrees and along a continuum ranging from increased awareness to full knowledge and utilization of AI tools and technology within the content of the industry. Shared below within the headings are the five (5) main focus areas with supporting points for use across industries and within specific job roles. Further analysis with greater detail may be found below within the specific questions section of this summary.

1. AI use is broad and growing across industries

Employers from all sectors reported the integration of AI tools into a range of job functions. Examples included:

- Marketing and sales teams using AI (e.g., ChatGPT, Jasper) to create drafts and campaigns
- Engineers using AI to prototype ideas and analyze data
- Legal and compliance teams using AI for document review and pattern detection
- Recruiters using AI-enabled tools to enhance talent sourcing and DEI efforts
- Scientific writers using generative AI for literature reviews and first drafts

2. AI literacy is a baseline expectation, not a bonus

Nearly all employers agreed that a basic understanding of how AI works and how it should and shouldn't be used is a core skill. While they do not expect all candidates to be experts in AI, they are looking for graduates who:

- Understand what tools like ChatGPT, Copilot, or Claude can and cannot do
- Can explain how they've used these tools in coursework, projects, or internships
- Are able to critically evaluate AI output

3. Human judgment and communication remain critical

Employers strongly emphasized that AI is only as valuable as the person behind it. Desired attributes include:

- The ability to ask strong prompts and adjust based on context
- Awareness of risks such as misinformation and bias
- Communication skills to explain how AI was used and why it was appropriate
- A mindset of continuous learning and curiosity about emerging tools

4. Ethical use of AI is a major hiring signal

Many employers are explicitly assessing whether students understand the ethical implications of AI. Red flags in interviews include candidates who:

- Fail to acknowledge the risks of misuse
- Overstate their technical fluency without examples
- Can't distinguish between personal contribution and AI-generated work

5. AI readiness can be demonstrated without a technical background

Several employers emphasized that students do not need to be in computer science or data analytics to show AI readiness. What matters most is their ability to apply AI tools appropriately within their field, whether it's business, design, healthcare, or the liberal arts.

Key Findings per Question

Captured below is the detailed information as provided and summarized by question. Information shared served to guide the University's next steps in developing curriculum and learning pathways for students.

Q1: "What specific AI-related skills or tools do you expect entry-level hires to bring with them?"

1. Growing expectation for AI literacy

- AI literacy is increasingly seen as a baseline expectation, not a bonus.
- Entry-level hires should understand what AI is, its capabilities and limitations, and how it applies to their function or industry.
- Some employers emphasized a "fluency" in AI, not just technical expertise.

2. Importance of prompt engineering

- Prompt engineering was repeatedly highlighted as one of the most critical and differentiating skills:
    - Knowing how to structure, refine, and troubleshoot prompts.
    - Understanding limitations in AI-generated outputs.
    - Using prompts effectively for brainstorming, writing, coding, and decision-making support.

3. Familiarity with leading generative AI tools

- Employers emphasized that students have familiarity with: ChatGPT, Claude, Gemini, Perplexity and Copilot.
- Use cases included writing emails, brainstorming ideas, finding product prospects, coding support, and summarizing technical documentation.

4. Application-specific AI use is more important than building models

- Students are not expected to build or train AI models, but:
    - They must know how to use AI outputs critically and collaborate with AI tools.
    - Strong emphasis on editing AI-generated content, fact-checking, and strategically interpreting AI results.
    - Examples include working with Python or VBA code generated by AI, or integrating results into Excel/Jupyter.

5. Use of AI in functional areas

- Sales/Marketing: AI used to identify prospects and write follow-ups.
- HR: AI tools are used in candidate search, keyword scanning on resumes, psychometric testing.
- Supply Chain: AI for forecasting and predictive modeling.
- Healthcare/MedTech: AI assists in flagging clinical data for doctors.
- Software Development: AI is leveraged for research and feature recommendations.

6. High value on data literacy & storytelling

- Strong demand for skills in: (1) Data analysis and visualization tools (e.g., dashboards, graphs); (2) using AI to interpret and communicate data insights; and (3) awareness of how AI augments but doesn't replace core analytical thinking.

7. Need for critical thinking and human oversight

- AI is a "superpowered Google," but still requires human oversight. Employers emphasized the need to: (1) validate AI outputs; (2) know when and how to trust AI and (3) be skeptical and strategic in using results.

8. Tool exposure vs. tool mastery

- Many employers understand that students may not have used their internal proprietary tools.
- However, exposure to mainstream tools and a demonstrated ability to learn and apply AI tools quickly were commonly requested.

9. Role-specific differences

- Technical roles (i.e., Computer Science, engineering, analytics): Expected to bring coding proficiency (especially Python) and a foundational understanding of machine learning, regression/classification, etc.
- Non-technical roles (e.g., business, HR, marketing): Expected to leverage AI to improve productivity, collaboration, and strategic insight.

10. AI Is evolving rapidly — lifelong learning is key

- Employers advised: Seniors should focus on using tools like ChatGPT, Copilot, and being peer-trainers. First-year students should focus on experimenting early and staying updated as tools evolve.

Q2: "In your opinion, what AI competencies or mindsets would differentiate a Lehigh graduate from peers entering your industry?"

Core Competencies

- **AI fluency & early exposure**: Having foundational knowledge of AI concepts, tools, and applications gives students a competitive edge, especially when learned during college.
- **Prompt engineering skills**: Ability to write, refine, and optimize AI prompts effectively to get relevant and accurate output.
- **Tool proficiency**: Familiarity with generative AI tools (e.g., ChatGPT, custom GPTs) and knowing how to use them productively in business contexts.
- **Audience-centered communication**: Rewriting AI-generated output with appropriate tone, visuals, and format for different stakeholders.
- **Critical evaluation & logic awareness**: Recognizing when AI "hallucinates" or makes flawed assumptions.
- **Ethical awareness**: Understanding bias, privacy concerns, source credibility, and fact-checking.

Mindsets for Success

- AI is a tool, not a replacement: Use AI to enhance, not replace, critical thinking, creativity, and subject mastery.
- Domain expertise first: Students must understand their field deeply before using AI to add value.
- Curiosity & lifelong learning: Commitment to staying up-to-date with AI's fast evolution; following tutorials, blogs, and learning resources regularly.
- Experimentation & iteration: Willingness to test tools, optimize processes, and embrace trial-and-error as part of AI learning and usage.
- Problem-solving & grit: Foundational strengths like adaptability, resilience, and strong problem-solving remain essential, with or without AI.

Additional Insights

- AI competencies are rarely required explicitly but greatly enhance value when paired with soft skills and business acumen.
- Employers encourage students to demonstrate how they've applied AI tools in real-world scenarios (projects, internships, etc.).
- Candidates who demonstrate technical fluency, human judgment and ethical use, are considered high-potential hires.
- "A Lehigh graduate who demonstrates a proactive approach to learning and adapting to new AI technologies will stand out. Competencies such as critical thinking, creativity in problem-solving, and an ethical mindset regarding AI applications are essential. Graduates who can articulate the implications of AI on business and society will have a competitive edge."

Q3: "Are there any emerging AI tools, platforms, or use cases specific to your field that students should be exposed to before entering the workforce?"

Common AI tools and platforms to explore

- ChatGPT (Advanced & Enterprise): Widely used for drafting, summarizing, analyzing data, and optimizing headlines.
- Microsoft Copilot: Integrated into MS Office suite; essential for business communication, document generation, and productivity enhancement.
- Google Gemini & Claude: Employers recommend students explore multiple AI models to build fluency and flexibility.
- Perplexity, Jasper (AI tool for Marketing), Parse.ly: Tools for content formatting, SEO optimization, analytics, and publishing support.
- GitHub Copilot: A major AI assistant in coding and development workflows, especially in life sciences and engineering.
- OpenAI API: Recommended for building custom applications and tools that integrate AI into functional systems.
- Consensus: Used for evidence-based search and summarization of academic research.
- Students should be exposed to AI tools like TensorFlow, PyTorch, and cloud-based AI services (e.g., AWS, Azure, Google Cloud). Understanding use cases in areas such as predictive analytics, customer insights, and automation of routine tasks will be crucial. Familiarity with industry-specific applications, such as AI in auditing or risk assessment, is also recommended.

Industry-specific use cases

- **Life Sciences & MedTech**: Using AI to rapidly iterate on design and development; integrating AI tools into coding, diagnostics, and product development.
- **Human Resources**: AI used for regional candidate sourcing (e.g., LinkedIn, Indeed), resume parsing, and recruitment analytics.
- **Marketing, Communications & Media:** AI assists with content optimization, audience targeting, data-driven copywriting idea generation, headline testing, data analysis and interpretation.
- **Operations & Supply Chain:** AI used to monitor facility performance, optimize logistics, and generate time/cost-saving insights.
- **Finance & Consulting**: Limited public tool use due to data privacy; emphasis on internal platforms.
- **Software Engineering:** Strong push toward students learning to embed AI in applications, not just conversationally.

Skills & habits to cultivate

- **AI tool agility**: Be comfortable experimenting with multiple platforms and switching between tools as they evolve.
- **Foundational understanding**: know how AI works, not just how to use it, to avoid critical errors and apply it meaningfully.
- **Industry awareness**: Research how AI is used in your specific career field to tailor your skill development accordingly.
- **Continuous learning:** Stay updated through newsletters, news sources, and creating your own AI "news agent."
- **Contextual application**: Match AI tools to specific roles and domains; what works in engineering may differ in marketing or healthcare.

Q4: "Beyond technical skills, what power skills do you believe are essential for effectively leveraging AI in your workplace?"

Ethical awareness & data sensitivity

- Ethics is paramount, especially when handling sensitive data like SSNs, salaries, or proprietary information.
- Professionals must know when NOT to use AI and understand boundaries of responsible use.
- Disclosure of AI use is strongly encouraged: when, where, and how it was used in professional work.

Critical thinking & judgement

- AI users must have strong editorial judgment, knowing when AI is helpful and when human decision-making is required.
- A healthy skepticism of AI outputs is necessary; understanding AI limitations and logic flaws helps avoid misapplication.
- Critical thinking and resilience are crucial in navigating evolving technologies and integrating new tools.

Communication & translation skills

- Ability to translate complex technical outputs into business language for non-technical stakeholders is essential. Communication should be tailored to the audience and include clarity around the role of AI in final outputs.

Adaptability & lifelong learning

- The best employees are always iterating, staying current, and learning as tools evolve.
- Curiosity and discovery drive successful change management and adoption of AI.
- Lifelong learning and foundational thinking provide the flexibility to adapt across industries and tools.

Collaboration & change leadership

- AI adoption requires team collaboration, empathy, and the ability to drive behavior change.
- "Soft areas" such as perception, common sense, and contextual awareness are key to gaining trust and facilitating integration. Industry-specific standards may vary widely; foundational soft skills allow for effective adaptation.

Barriers & caution

- Some industries still have low or cautious AI adoption, especially due to data privacy and policy restrictions.

Q5: "Is there anything else you might suggest relative to preparing our students for AI in the workplace that our questions may not have addressed?"

Start early and build foundations

- Introduce AI early in the college journey, especially for non-technical majors.
- Offer 1-credit exploratory courses in freshman/sophomore year covering: (1) Basic AI concepts and applications across industries; (2) Ethical considerations; and (3) How AI enhances (not replaces) human work.
- Avoid pushing students too quickly into advanced AI/ML without foundational understanding.

Broaden AI Literacy across all disciplines

- Embed AI into intro-level courses across majors (e.g., Business 001, Communications, Healthcare).
- Focus on horizontal AI tools (e.g., productivity, automation) and vertical AI tools (e.g., role-specific tools like predictive analytics or content generators).
- Encourage use of AI beyond LLMs (e.g., in healthcare, finance, education, and digital media).

Develop human skills alongside AI proficiency

- Students must learn to communicate, critique, and apply AI outputs effectively.
- Emphasize editorial judgment, personalization, and context-awareness.
- Teach students how to optimize AI-generated content for different platforms or purposes.

Practice responsible AI use

- AI should not replace academic integrity, students must learn to use tools as assistants, not substitutes.
- Establish guidelines for responsible, transparent AI use.
- Provide space for students to experiment, play, and reflect on AI's role in their work.

Promote curiosity, agility, and continuous learning

- Encourage a mindset of adaptability, experimentation, and iteration.
- Students should think "AI first" and look for process improvements in any role or industry.
- Prepare for evolving skill sets, not static job descriptions.

Real-world experience with AI

- Engage students in hands-on projects and portfolios that integrate AI tools meaningfully.
- Encourage independent work like newsletters, analytics dashboards, or creative AI applications.

Data ethics and privacy

- Help students understand data ownership, user consent, and AI's ethical gray zones.
- Emphasize critical thinking about what AI should and shouldn't do in professional settings.