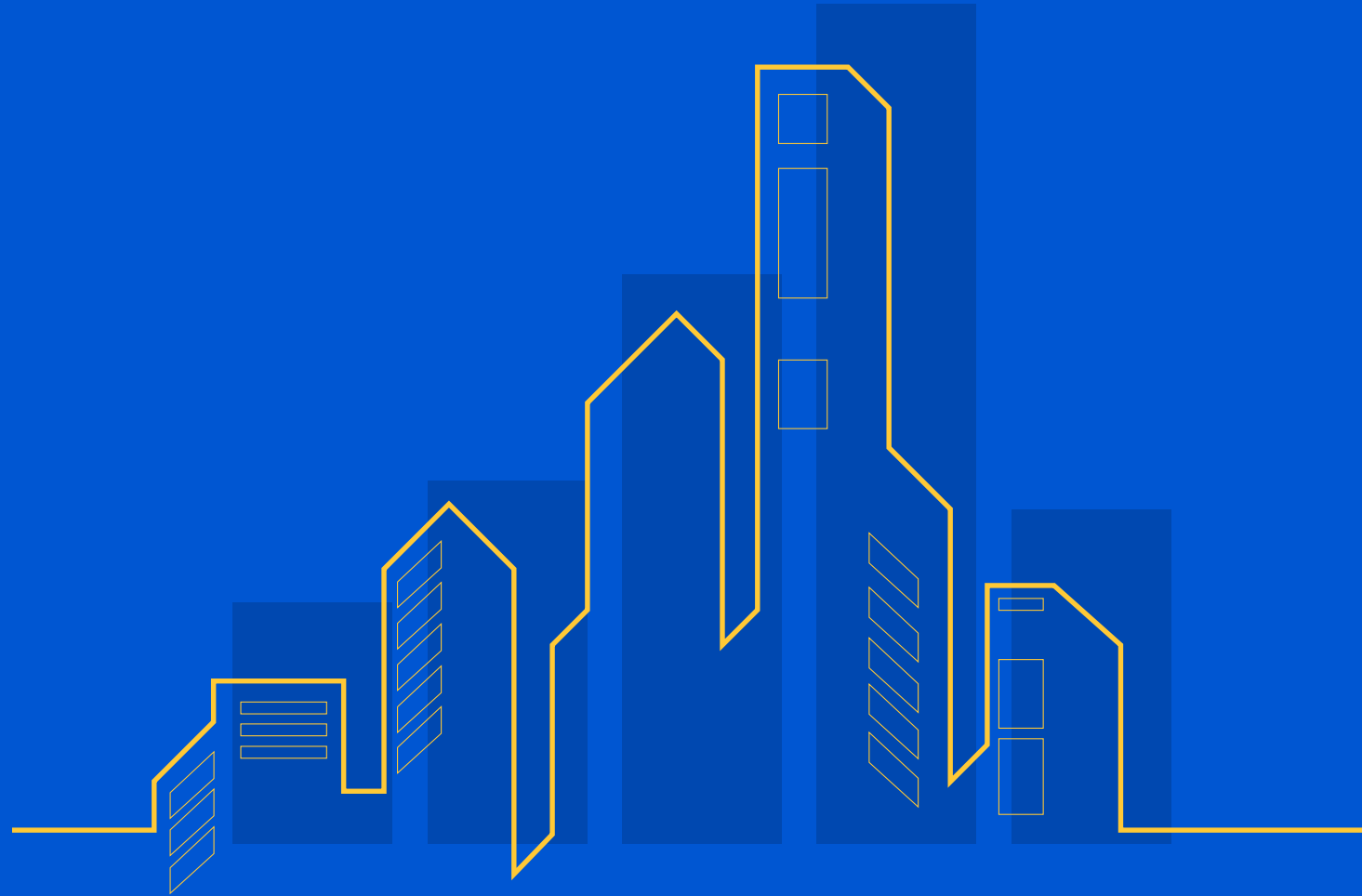**2025**

Industry Skills Brief

Where to prioritize learning and talent development

coursera

Introduction

The pace of technological advancement, coupled with evolving market dynamics, is creating unprecedented challenges for L&D and workforce leaders across industries. Skills gaps are widening, the half-life of technical skills is shrinking, and attracting and retaining top talent is more challenging than ever. To remain competitive and innovative amid this constant change, organizations need more than a reactive approach to skills development—they need a data-driven strategy rooted in a deep understanding of current and future skills needs.

Coursera is uniquely positioned to provide this clarity by offering insight into how millions of learners worldwide engage with critical skills.

In this year's *Industry Skills Brief*, we leverage this unparalleled data to provide a deep dive into the evolving skills landscape across five key industries: energy, financial services, professional services, retail and consumer, and

technology. By analyzing employee enrollment trends, over-indexing patterns, and top target roles, we've uncovered key insights to help your organization make informed decisions about talent development.*

These proprietary findings will help you navigate the complexities of the modern skills landscape, enabling your organization to develop a future-ready workforce and gain a competitive edge.

*Unless otherwise stated, all skills data featured in the report is based on Coursera data. See the methodology section for more details.

Table of contents

Executive summary

1 Generative AI is a top priority

Reflecting the technology's transformative potential, enrollments in generative AI (GenAI) courses soared by an average of 1,158% across all industries—including those not featured in the report. The retail and consumer industry saw the most significant growth at 1,788%, followed by energy at 1,343%, indicating a strong drive to leverage AI for innovation and efficiency. CGI's *2024 Voice of Our Clients* report echoes this trend, identifying AI as the top digital capability investment over the next three years in sectors such as retail, consumer goods, and wholesale.[1] More broadly, 89% of executives rank AI and GenAI as a top-three tech priority for 2024.[2] Most enterprise learners who enrolled in GenAI content enrolled in introductory content such as Google AI Essentials by Google and Prompt Engineering for ChatGPT by Vanderbilt

University. However, some of the most popular content is more technical, such as Generative AI with Large Language Models by AWS and DeepLearning.AI.

2 Professional Certificate enrollments surge across industries

Enrollments in Professional Certificate programs grew substantially across most industries, with an overall increase of 18% year-over-year. The majority of these enrollments were in entry-level Professional Certificates, reflecting how individuals are investing in cross-training and potential reskilling. The energy industry showed a remarkable 324% increase in enrollments, signaling a strong commitment to reskilling and upskilling in this rapidly transforming sector. This surge in professional development aligns with

findings from McKinsey & Co., which highlight the increasing demand for talent in new energy businesses, particularly for renewable energy and decarbonization efforts.[3] Furthermore, 88% of employers believe that Professional Certificates strengthen a candidate's job application and 97% of higher education leaders believe that micro-credentials, like Professional Certificates, can strengthen long-term career outcomes for learners.[4]

3 Demand for data skills fuels growth

Across industries, data-focused Professional Certificates, like the Google Data Analytics and Microsoft Power BI Data Analyst certificates, consistently rank among the top programs. This emphasizes the need for data literacy and analytical skills as organizations seek data-driven insights to guide decision-making across

departments. For example, in the United States, nearly 25% of all job postings now require data science skills, spanning a wide range of industries and geographies.[5] Meanwhile, global research from 2022 found that 88% of C-suite executives believe that data literacy will be as vital in the future as computer literacy is today.[6]

4 Leadership skills remain essential

While technical skills are crucial, the report highlights the enduring significance of leadership skills. Skills like leadership development, change management, negotiation, and collaboration consistently appear among the top 10 skills across multiple industries, signifying their importance for navigating complex challenges and leading effectively. This emphasis on leadership development is critical in sectors like retail, where McKinsey & Co. research identifies

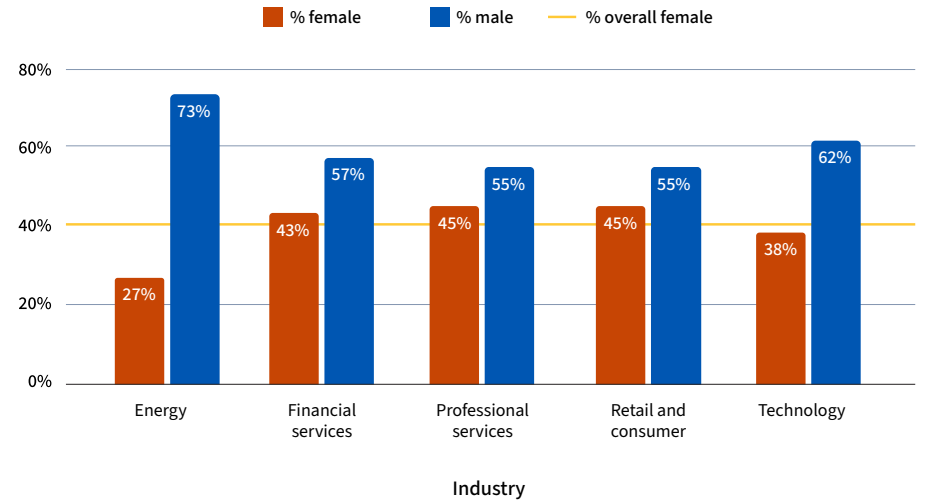a lack of inspiring leadership as a key driver of employee attrition.[7]

5 Cybersecurity skills in high demand

Across multiple industries—including professional services, energy, and technology—cybersecurity emerged as a top area of interest, with high demand for courses and Professional Certificates. This trend underscores the growing need for skilled professionals who can protect sensitive data and mitigate cyber risks. The importance of cybersecurity is especially apparent for professional services firms, given that Aon's *2023 Global Risk Management Survey* found that cyberattacks and data breaches are the top risk facing this industry.[8]

6 Uneven progress for women in the skills landscape

While increasingly more women are engaging in skills development on Coursera, a closer look reveals a mixed picture across industries. Within enterprise learning programs, professional services and retail and consumer boast the highest representation of women at 45%, followed closely by financial services at 43%, and technology at 38%. The energy sector lags at 27%, reflecting broader industry trends. The International Energy Agency reports that women hold less than 15% of senior management positions within the global energy sector.[9] Closing these gaps is not just a matter of equity but also an economic imperative. The World Bank estimates that closing the gender gap in work could result in a 20% increase in global gross domestic product.[10]

Self-identified enterprise learner gender by industry

Legend: ■ % female ■ % male — % overall female

Industry	% female	% male
Energy	27%	73%
Financial services	43%	57%
Professional services	45%	55%
Retail and consumer	45%	55%
Technology	38%	62%

7 Technology-driven roles transcend industry boundaries

Roles like Web Developer, Machine Learning Engineer, Software Developer, and Cloud Security Engineer consistently appear among the top target roles across all five industries. This reinforces the trend of technology skills becoming increasingly crucial for a wide range of professions, regardless of industry.

8 Hybrid skill sets drive career success

The lines between technical expertise and human skills are blurring, as many of the top target roles require a blend of both. For example, while Web Developer remains a top target role for learners across industries, it increasingly demands not just coding proficiency but also skills like collaboration and communication—two of the top 10 skills identified in the technology industry data. This trend underscores the need for individuals to develop versatile and adaptable skill sets to thrive in today's dynamic work environment, especially given recent developments in GenAI and automation.[11] Research from McKinsey & Co. further reinforces this, showing that individuals who heavily use GenAI report needing higher-level cognitive and social-emotional skills to do their jobs significantly more than they needed to improve their technological skills.[12]
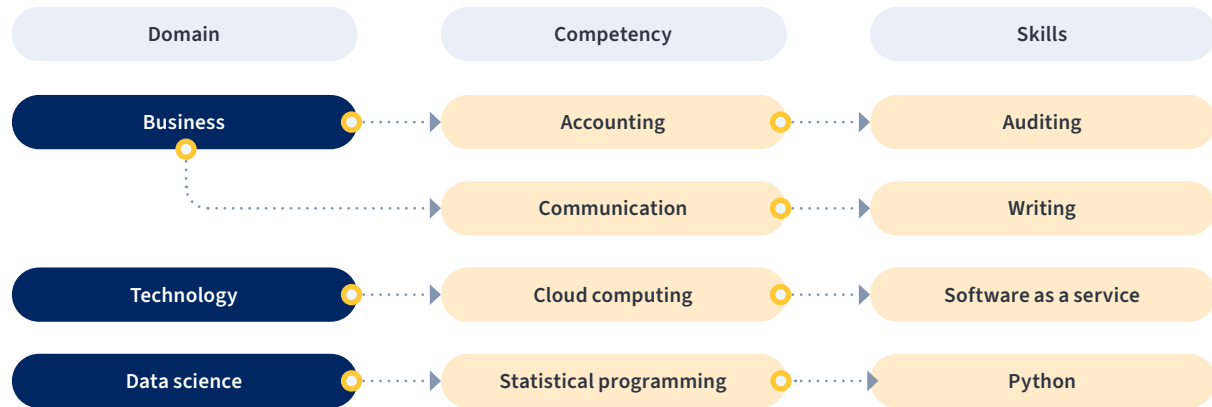
How to read this report

Coursera's skills taxonomy

The *Industry Skills Brief* presents a comprehensive view of skill and credential trends across five industries by drawing on insights from over 5M enterprise learners. Skills in Coursera's taxonomy fall into three cascading levels: from broad to granular, they include "domains," "competencies," and "skills." We use "skills" to describe all three categories in the foreword and executive summary. In each of the industry spotlights, we use "top skills" to refer to the third level illustrated here.

Skills taxonomy example

Domain	Competency	Skills
Business	Accounting	Auditing
	Communication	Writing
Technology	Cloud computing	Software as a service
Data science	Statistical programming	Python

ⓘ Explore the **methodology** for the complete list of skills featured in this report.

How to read enrollment trends

The report also features **enrollment trends** on the Coursera platform that capture which competencies, skills, or top target roles learners are engaging with over time.
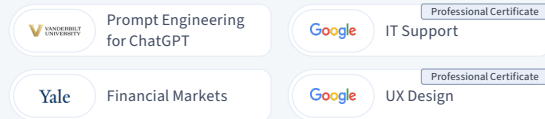
Enrollment trends are presented at the industry level and are presented in three ways:

- **Year-over-year (YoY) enrollment growth** measures GenAI and Professional Certificate enrollment growth year-over-year. Time frames for YoY enrollment may vary.

- **Top skills and target roles** use an **over-indexing methodology** to capture what learners in a specific industry are disproportionately enrolling in compared to learners globally.

- **Most popular content** highlights the most enrolled-in courses, Guided Projects, and Professional Certificates in the past year.

How to interpret recommended content by industry

Each industry spotlight in this report includes recommended content that aligns with an industry's top skills and top target roles. These are customized recommendations vetted by Coursera's curation experts. Consider them a starting point for identifying which content you may want to include in a learning program.

Recommended content for top skills and roles

VANDERBILT UNIVERSITY — Prompt Engineering for ChatGPT	Google — IT Support *Professional Certificate*
Yale — Financial Markets	Google — UX Design *Professional Certificate*

Industry skill trends

"

Things are changing faster than ever before, which means that our employees need to be reskilled now more than ever. If we don't have the people with the right skills, then we can't grow our business.

Bas Puts
Global Head of Learning & Skill Architecture
Siemens[13]

coursera

Industry spotlight

Energy

Industry overview

174K
Total Coursera learners

27%
Percentage female learners

Summary

As the shift toward clean energy accelerates, driven by factors like climate change concerns and technological advancements, companies are seeking professionals adept in areas like renewable energy systems, data analytics for grid optimization, and cybersecurity for critical infrastructure. This demand for specialized knowledge is reflected in Coursera's data, which shows a remarkable 324% year-over-year increase in enrollment for Professional

Certificate programs within the energy sector—the highest growth among all industries analyzed—and a 1,343% year-over-year increase in enrollment for GenAI courses among energy professionals, reflecting the industry's focus on leveraging data and AI innovation.[14]

Skills transformation in the energy sector requires a multipronged approach that includes attracting new talent, upskilling existing workforces, and fostering a culture of continuous learning. However, addressing the persistent gender gap in the industry, particularly in leadership roles,[15] remains crucial for building a diverse and future-ready workforce.

Enrollment trends

GenAI

↑**1,343**%
YoY enrollment growth

Top GenAI content

Google Cloud	Introduction to Generative AI
DeepLearning.AI	Generative AI for Everyone
coursera project network	ChatGPT for Beginners: Save time with Microsoft Excel
VANDERBILT UNIVERSITY	Prompt Engineering for ChatGPT
Google	AI Essentials

Professional Certificates

↑**324**%
YoY enrollment growth

Top Professional Certificates

Google	Data Analytics	Professional Certificate
Google	Project Management	Professional Certificate
Microsoft	Power BI Data Analyst	Professional Certificate
Google	Cybersecurity	Professional Certificate
Google	Digital Marketing & E-commerce	Professional Certificate

Industry spotlight

Energy

"

I believe leadership development is paramount to the energy sector. Leaders in energy must manage technological advancements, regulatory shifts, and market fluctuations, all while steering their organizations towards both sustainability and profitability. At Reliance, we develop leaders at all levels through targeted interventions; we leverage the power of both formal and informal learning methods to ensure a comprehensive approach for developing leaders

Sumegha Lazarus
SGM & Head - Content and Digital Learning
Reliance Industries Limited

Top skills

1. Negotiation
2. Influencing
3. **Leadership development**
   Essential for guiding teams through industry changes and driving innovation.
4. **Supply chain systems**
   Crucial for managing the complex supply chains and logistics in the energy sector.
5. **Change management**
   Important for navigating and implementing industry-wide changes and technological advancements, from fossil-based to zero-carbon.
6. Adaptability
7. Planning
8. Collaboration
9. Organizational development
10. Business communication

ⓘ **Note:** Highlighted skills are those that have been identified as key areas of focus by Coursera skill experts

Top target roles

1. Operations Manager
2. Cloud Security Engineer
3. Network Engineer
4. Machine Learning Engineer
5. Treasurer
6. Software Developer
7. Systems Analyst
8. Auditor
9. Marketing Associate
10. Financial Reporting Manager

Recommended content for top skills and roles

MACQUARIE University	Leading transformations: Manage change
VANDERBILT UNIVERSITY	Generative AI for Leaders
UNIVERSITY OF NOTRE DAME	Leading from Within
Northwestern University	High Performance Collaboration: Leadership, Teamwork, and Negotiation
aws	Cloud Technical Essentials
RUTGERS	Supply Chain Logistics
UCI	Supply Chain Planning
coursera project network	Analyzing Digital Transformation Canvas for competitiveness `Guided Project`
Unilever	Supply Chain Data Analyst `Professional Certificate`
Microsoft	Cybersecurity Analyst `Professional Certificate`

Industry spotlight

Financial services

Industry overview

382K

Total Coursera learners

43%

Percentage female learners

Summary

The financial services industry faces immense disruption as GenAI rises, industries converge, and pressure mounts to address escalating global risks like climate change and cybercrime.[16] This transformation creates an acute need for new skills as financial institutions seek to harness the power of these advancements while adapting to evolving customer expectations for more personalized and timely service.[17] Coursera's data reveals a surge in demand for cross-training and reskilling, with Professional

Certificate enrollments in financial services increasing by 88% year-over-year—the second-highest increase across all industries observed in this report. This appetite for upskilling is particularly evident in the remarkable 709% year-over-year growth in enrollments for GenAI courses within the financial services sector. This aligns with predictions that GenAI may generate an additional $200 billion to $340 billion for the industry.[18]

Rapid evolution within the financial services sector has triggered a shift in the industry's skills profile. Demand for traditional finance expertise is being complemented by a growing need for interpersonal skills, strategic thinking, and technology proficiency.[19] According to Coursera's data, top skills include fintech and blockchain, alongside leadership and emotional intelligence. The popularity of Professional Certificates in data analytics and project management further emphasizes the industry's push toward data-driven strategies and digital fluency.

Enrollment trends

GenAI

↑**709**%

YoY enrollment growth

Top GenAI content

DeepLearning.AI	Generative AI for Everyone
Google Cloud	Introduction to Generative AI
Google	AI Essentials
aws	Generative AI with Large Language Models
VANDERBILT UNIVERSITY	Prompt Engineering for ChatGPT
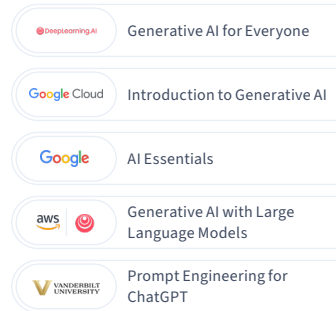
Professional Certificates

↑**88**%

YoY enrollment growth

Top Professional Certificates

Google	Data Analytics	Professional Certificate
Google	Project Management	Professional Certificate
Microsoft	Power BI Data Analyst	Professional Certificate
Google	Digital Marketing & E-commerce	Professional Certificate
Google	Cybersecurity	Professional Certificate

Industry spotlight
Financial services

"

Financial services rely heavily on data, technology, and AI, but our employees ultimately still work with people. We're committed to ensuring every employee can succeed, and we've found that our best leaders and front-line employees actively develop their emotional intelligence (EI). Through our Coursera program, we show employees that EI is a skill they can develop, just like any technical skill, empowering them to better serve customers and advance their careers.

Kim Ellis
Vice President, Leadership Development & Culture

goeasy

Top skills

1. **Fintech**
   Key to understanding financial technology as it continues to revolutionize the industry.

2. Negotiation
3. Leadership development
4. Emotional intelligence

5. **BlockChain**
   Important for secure and transparent transaction processing and new financial products.

6. **Investment management**
   Core knowledge needed for managing assets and advising clients.

7. Resilience
8. Adaptability
9. Change management
10. General accounting

ⓘ **Note:** Highlighted skills are those that have been identified as key areas of focus by Coursera skill experts.

Top target roles

1. Treasurer
2. Budget Analyst
3. Machine Learning Engineer
4. Securities / Commodities Trader
5. Financial Reporting Manager
6. Financial Analyst
7. Financial Manager
8. Systems Analyst
9. Business Analyst
10. IT Manager

Recommended content for top skills and roles

UNIVERSITY OF ILLINOIS	Financial Analysis of Scenarios and Decisions
RICE	Investment Strategies and Portfolio Analysis
UNIVERSITÉ DE GENÈVE	Securing Investment Returns in the Long Run
UCI	Completing the Accounting Cycle
INSEAD	Introduction to Blockchain for Financial Services
VANDERBILT UNIVERSITY	Generative AI for Leaders
Penn	Positive Psychology: Resilience Skills
coursera project network	Financial Analytics in RStudio: Identify Profit Drivers *Guided Project*
IBM	Business Intelligence (BI) Analyst *Professional Certificate*
INTUIT	Academy Bookkeeping *Professional Certificate*

Industry spotlight

Professional services

Industry overview

187K
Total Coursera learners

45%
Percentage female learners

Summary

The professional services sector is committed to upskilling, driven by technological advancements, economic shifts, and evolving client demands. The demand for skills in high-growth areas—like cybersecurity—remains strong.[20] This aligns with industry projections, as the global professional services market size is expected to reach $7,590.57 billion by 2028, fueled by digital transformation and sustainable growth initiatives, according to The Business Research Company.[21] Learners in the professional services industry flocked to both Professional Certificate and GenAI content in 2023, driving some of the highest enrollment numbers across all industries.

However, learners in other industries have since outpaced professional services in enrollment growth for these areas. Given the outsized impact that GenAI will continue to have on global business, it's crucial for professional services firms to continue upskilling employees in GenAI to best assist client organizations as they navigate their own technological changes.

Enrollment trends

GenAI

↑**276%**
YoY enrollment growth

Top GenAI content

DeepLearning.AI	Generative AI for Everyone
Google Cloud	Introduction to Generative AI
aws	Generative AI with Large Language Models
IBM	Generative AI: Introduction and Applications
IBM	Generative AI: Prompt Engineering Basics

Professional Certificates

↓ **-44%**
YoY enrollment growth

Top Professional Certificates

Google	Project Management	Professional Certificate
Google	Data Analytics	Professional Certificate
Google	Digital Marketing & E-commerce	Professional Certificate
Microsoft	Power BI Data Analyst	Professional Certificate
IBM	Data Science	Professional Certificate

" *As AI transforms the way we work, strong leadership is more vital than ever. Deloitte is focused on developing leaders who can foster deep human connection and inspire their teams in our increasingly tech-driven world. This is why we're investing heavily in leadership development programs that prioritize empathy, resilience, and authenticity.*

Aruna Pawaskar
Director, Deloitte India

Industry spotlight
Professional services

"

While all themes are critical, at PwC, our future success is anchored in three essential skills: Negotiation, Influencing, and Leadership Development.
These competencies are not just tools; they are the foundation that empowers our workforce to tackle complex challenges, drive transformative change for clients, and lead with purpose for nation and Industry.

Shirin Sehgal
Chief People Officer
PWC India

Top skills

1. **Audit**
   Essential for ensuring compliance, accuracy, and financial transparency.

2. **Cybersecurity**
   Crucial for protecting sensitive data and maintaining client trust in an increasingly digital world.

3. **Influencing**
   Important for shaping client decisions and driving strategic initiatives.

4. Negotiation
5. Leadership development
6. Risk management
7. People analysis
8. Brand management
9. Storytelling
10. Conflict management

Top target roles

1. Cloud Security Engineer
2. Software Developer
3. Project Manager
4. IT Project Manager
5. Risk Analyst
6. Auditor
7. Data Analyst
8. Systems Analyst
9. IT Manager
10. Business Analyst

Recommended content for top skills and roles

Google	Foundations of Cybersecurity
UCI	Essentials of Management and Strategic Planning
New York Institute of Finance	Operational Risk Management: Frameworks & Strategies
ILLINOIS	Auditing I: Conceptual Foundations of Auditing
The Hong Kong University of Science and Technology	Information Systems Auditing, Controls and Assurance
University of Michigan	Influencing People
Northwestern University	High Performance Collaboration: Leadership, Teamwork, and Negotiation
Coursera project network	Conducting Exploratory Data Analysis *(Guided Project)*
IBM ISC2	Cybersecurity Specialist *(Professional Certificate)*
aws	Cloud Solutions Architect *(Professional Certificate)*

ⓘ **Note:** Featured skills are those that have been identified as key areas of focus by Coursera skill experts.

Industry spotlight

Retail and consumer

Industry overview

217K
Total Coursera learners

45%
Percentage female learners

Summary

The retail and consumer industry is rapidly adapting to evolving consumer behaviors, technological advancements, and a heightened focus on sustainability. Furthermore, career development is one of the top two most important factors to retail employees as the industry faces widespread attrition, and is also associated with improved customer experience.[22] Coursera data reveals that retail and consumer leaders are making a concerted investment in employee development. Notably, there has been

a 1,788% surge in enrollments for GenAI courses over the past year—the highest increase across all industries analyzed. This enthusiasm aligns with McKinsey & Co.'s research, which positions GenAI as a potential catalyst for unlocking $400 billion to $660 billion within the industry.[23]

Beyond AI, retail and consumer companies are prioritizing skills that enable them to navigate change effectively. Resilience, advertising, and change management rank among the top skills sought by learners on Coursera. This focus on adaptability aligns with industry research indicating a widespread need for businesses to embrace new models and strategies to thrive in the rapidly changing retail landscape.[24] For instance, research from PwC finds that consumer market leaders plan to invest in new technologies, with many planning to invest in GenAI specifically.[25] Committing to the development of soft skills among talent will enable retail and consumer firms to capitalize on emerging opportunities like GenAI.[26]

Enrollment trends

GenAI

↑**1,788%**
YoY enrollment growth

Top GenAI content

DeepLearning.AI	Generative AI for Everyone
Google Cloud	Introduction to Generative AI
VANDERBILT UNIVERSITY	Prompt Engineering for ChatGPT
coursera project network	ChatGPT for Beginners: Save time with Microsoft Excel · Guided Project
aws	Generative AI with Large Language Models

Professional Certificates

↑**13%**
YoY enrollment growth

Top Professional Certificates

Google	Project Management	Professional Certificate
Google	Data Analytics	Professional Certificate
Google	Cybersecurity	Professional Certificate
Google	IT Support	Professional Certificate
Google	Digital Marketing & E-commerce	Professional Certificate

Industry spotlight

Retail and consumer

"

The retail and consumer industry thrives on its ability to adapt and connect with customers. To excel in this rapidly changing landscape, professionals need both strong people skills and a firm grasp of emerging technologies. Whether it's elevating customer service, driving sales, managing inventory or leveraging digital tools for all three, mastering this blend of human touch and technological expertise will define the future of retail and consumer success.

Ina Bajwa
Chief Talent Officer
Tata Digital

Top skills

1. Resilience

2. **Advertising**
   Essential for reaching and engaging consumers effectively in a crowded marketplace.

3. **Change management**
   Important for navigating and implementing changes driven by digital transformation, market trends, and regulatory updates.

4. Business communication
5. Negotiation
6. Leadership development

7. **Adaptability**
   Given the fast-paced changes in consumer behavior and market conditions, adaptability ensures that professionals can quickly respond to new trends and disruptions.

8. Collaboration
9. Project management
10. Emotional intelligence

ⓘ **Note:** Highlighted skills are those that have been identified as key areas of focus by Coursera skill experts.

Top target roles

1. Web Developer
2. Operations Manager
3. Software Developer
4. Network Engineer
5. Financial Manager
6. Social Media Marketer
7. Cloud Security Engineer
8. Business Analyst
9. Machine Learning Engineer
10. IT Manager

Recommended content for top skills and roles

VANDERBILT UNIVERSITY	Generative AI for Leaders
Queen Mary University of London	Getting Started with Leadership
UNIVERSITY OF MICHIGAN	Emotional Intelligence: Cultivating Immensely Human Interactions
UCDAVIS UNIVERSITY OF CALIFORNIA	Adaptability and Resiliency
MACQUARIE University	Storytelling and influencing: Communicate with impact
◑	Advertising and E-commerce on TikTok
UVA DARDEN	Advertising in the Age of Generative AI
IBM	Project Manager _Professional Certificate_
∞ Meta	Social Media Marketing _Professional Certificate_
coursera project network	How to create a Jira SCRUM project _Guided Project_

Industry spotlight

Technology

Industry overview

324K
Total Coursera learners

38%
Percentage female learners

Summary

Out of all the industries covered in this report, technology is likely to be most impacted by GenAI, with McKinsey & Co anticipating a potential increase in revenue by $240 billion to $450 billion.[27] Not surprisingly, Coursera data reveals a 1,155% year-over-year surge in enrollments for GenAI courses. Top GenAI courses include Generative AI for Everyone by DeepLearning.AI and offerings from Google Cloud and Amazon Web Services, indicating

a demand for expertise across various AI applications. According to Accenture's *Technology Vision 2024* report, 96% of high-tech executives believe that leveraging AI agent ecosystems will be a "significant opportunity" for their organizations in the next three years.[28]

While technical skills like software as a service (SaaS), software testing, and Amazon Web Services are in high demand, Coursera data also highlights the significance of human skills, with collaboration and people development ranking among the top 10 skills. To address the widening tech skills gap, which IDC predicts will impact nine out of 10 organizations by 2026,[29] technology leaders should adopt a two-pronged approach. This involves investing in training programs that build expertise in high-growth areas like GenAI and equipping their workforce with essential human skills for adaptability and collaboration in this rapidly evolving landscape.

Enrollment trends

GenAI

↑**1,155%**
YoY enrollment growth

Top GenAI content

aws	Generative AI with Large Language Models
DeepLearning.AI	Generative AI for Everyone
coursera project network	Github CoPilot for Beginners: Write Software With AI *Guided Project*
Google Cloud	Introduction to Generative AI
VANDERBILT UNIVERSITY	Prompt Engineering for ChatGPT
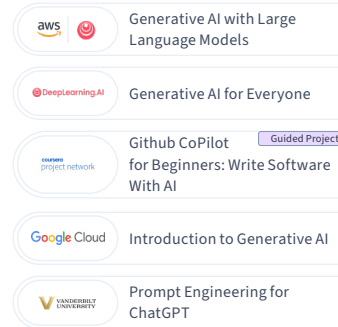
Professional Certificates

Static
YoY enrollment growth

Top Professional Certificates

Google	Project Management	*Professional Certificate*
Microsoft	Power BI Data Analyst	*Professional Certificate*
Google	Data Analytics	*Professional Certificate*
Google	Cybersecurity	*Professional Certificate*
IBM	Data Science	*Professional Certificate*

Industry spotlight

Technology

"

Pegasystems is accelerating SaaS and cloud adoption to drive innovation and deliver greater client value through more scalable and efficient solutions. Recognizing the importance of human skills alongside technological advancement, our Skill Spotlight series helps enable employees to navigate the complexities of cloud transitions, drive cross-functional innovation, and ultimately deliver superior outcomes for our clients.

Vivekananda Kadukuntla
Learning Lead

PEGA

Top skills

1. **Software as a service**
   Essential for understanding and delivering cloud-based services, which are a cornerstone of modern tech businesses.

2. Software testing
3. Change management

4. **Amazon Web Services**
   Key for using cloud computing to build, deploy, and manage applications and services.

5. Collaboration
6. People development

7. **Software architecture**
   Crucial for designing scalable, reliable, and efficient software systems.

8. Project management
9. Risk management
10. SQL

Note: Highlighted skills are those that have been identified as key areas of focus by Coursera skill experts.

Top target roles

1. Web Developer
2. Machine Learning Engineer
3. Software Developer
4. Cloud Security Engineer
5. Operations Manager
6. Engineering Manager
7. Computer Systems Engineer
8. Budget Analyst
9. Search Engine Optimization Specialist
10. Network Engineer

Recommended content for top skills and roles

IBM	Introduction to Project Management
UNIVERSITY OF ILLINOIS	Cloud Computing Concepts, Part 1
Google Cloud	Automating the Deployment of Networks with Terraform
Duke	Java Programming: Solving Problems with Software
fractal	Coding with Generative AI
VANDERBILT UNIVERSITY	Generative AI for Leaders
CISCO	Threat Analysis
coursera project network	Code Faster with Tabnine: Optimise a NextJS Application — *Guided Project*
aws	Cloud Technology Consultant — *Professional Certificate*
IBM	AI Developer Professional Certificate — *Professional Certificate*

Appendix

coursera

Glossary

Artificial Intelligence (AI) skills: A set of skills that enables individuals to understand, develop, and apply AI technologies. This report focuses on both advanced and foundational skills relevant to AI.

Digital skills include everything from typing and posting on social media to developing software and managing cybersecurity. Digital skills exist on an ever-evolving spectrum.

Human skills constitute our ability to relate to one another and include skills such as creativity, critical thinking, information interpretation, decision-making, leadership, and communication.

Note: These two categories are complementary. People use human skills to effectively and ethically make use of digital skills. Likewise, digital skills enhance human skills.

Enrollment trends: Patterns in learner enrollments on the Coursera platform, which can reveal insights into the popularity and relevance of specific skills, competencies, or courses in a given industry.

Enterprise learner (Learner): An individual who is registered for content on the Coursera platform through one of the more than 4,000 businesses, 3,100 higher education institutions, and governments in over 100 countries who is a Coursera customer. Enterprise learners can be enrolled in multiple learning programs, but are counted only once in the platform's metrics. The skills benchmarking data in this report is based on learner data.

Generative AI (GenAI): A subset of artificial intelligence (AI) that focuses on creating new content, such as text, images, audio, or video, based on learned patterns and rules from existing data. GenAI technologies include language models like GPT-4o and image generators like DALL-E.

GenAI enrollments: The YoY increase in the number of learners enrolling in courses related to generative AI technologies on the Coursera platform, calculated for a specific industry. To calculate year-over-year enrollments, we compare GenAI enrollments from 2022 to 2023 with GenAI enrollments from 2023 to 2024.

Industry micro-credential or micro-credential: A short, focused, and flexible learning program that allows individuals to acquire specific job-relevant skills or competencies. Micro-credentials, such as Coursera's Professional Certificates, prepare learners for in-demand industry skills and can complement traditional degree programs for higher education institutions, upskill teams for businesses, or develop an entire workforce for governments.

Leadership skills: A set of skills that enable individuals to guide, motivate, and manage teams effectively. These skills include adaptability, change management, emotional intelligence, decision-making, and strategic thinking, among others.

Most popular content: These sections highlight the courses, Guided Projects, and Professional Certificates with the highest enrollments in the past year among learners in each industry. Most popular content is based on the overall number of enrollments and provides insights into the content that attracts the most learners in a given area.

Over-indexing ("top skills"): A measure of the relative popularity of a specific skill among learners in a particular country or region compared to the global learner population on Coursera. Over-indexing is not a measure of proficiency.

Professional Certificate(s): Coursera offers [Professional Certificates](#), a type of microcredential, from leading industry partners that teach the specific skills needed for entry-level roles in in-demand digital jobs. Professional Certificates typically take 4–6 months to complete and include hands-on projects that simulate real-world tasks. To calculate year-over-year enrollments, we compare Professional Certificate enrollments from 2023 to Professional Certificate enrollments from 2024.

Recommended content for top skills and roles: These sections highlight courses and learning programs that align with the skills and career paths trending among learners in each industry. Recommendations are based on learner enrollment data, reflecting the content that is most popular and relevant to industry companies. Institutions can leverage these insights to inform their learning programs, ensuring they offer courses and curricula that match learner interests and market demands.

Skills: The transference of knowledge into value and the ability to perform specific tasks. To figure out what skills each Coursera content offering teaches, we use Coursera's Skills Graph, which draws information from open-source taxonomies like Wikipedia and insights from Coursera educators and learners. A single course often covers several different skills.

Top GenAI course(s): The GenAI course or courses with the highest total enrollments within a specific industry, which is based on the overall number of learners enrolling in the course. It helps identify the GenAI course that is most in-demand among learners in a particular area.

Top Professional Certificate(s): The Professional Certificate or Certificates with the highest total enrollments within a specific industry, which is based on the overall number of learners enrolling in the certificate program. This helps identify the most sought-after Professional Certificate(s) among learners in a particular area.

Top target roles: Roles and career trajectories that are gaining popularity among learners in a specific industry, as indicated by enrollment patterns in courses and learning programs related to those roles.

These insights can help businesses align their offerings with the evolving interests and aspirations of enterprise learners.

Upskilling: The process of acquiring new skills or enhancing existing skills to improve job performance, adapt to changing job requirements, or prepare for new roles. Upskilling is increasingly important in today's rapidly evolving digital economy.

Methodology

Overview

Coursera's *Industry Skills Brief* assesses the skill proficiency of learners, measures which skills are trending globally, and identifies roles that engage highly with skills critical for the future of work. This year's report focuses on five industries that together account for nearly 25% of all enterprise learners on Coursera across Business, Campus, and Government verticals.

The report's methodology incorporates data from these components:

1. The Coursera Skills Graph
2. Over-indexing trends

The Coursera Skills Graph

The Coursera Skills Graph maps the connections among skills, content, careers, and learners on the Coursera platform.

Assessed by
- Quiz
- Assessment
- Programming assignment
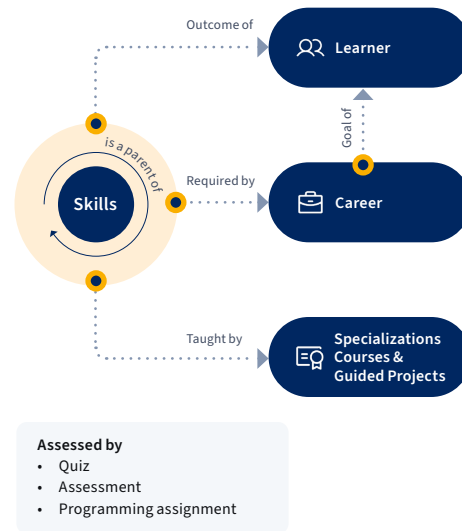
For the *Industry Skills Brief*, we leverage the following parts of the Skills Graph:

Skill to skill
Describes the connections among skills and generates a skills taxonomy where broad, higher-level skills are parents of more granular, lower-level skills.

Skill to content
Maps skills to the Coursera content that teaches them.

Relationships between skills and content

The skills in the Coursera Skills Taxonomy are mapped to relevant content using a machine learning model trained on a dataset of instructor and learner-labeled skill-to-content mappings. The model considers features like occurrence counts in lecture transcripts, assignments, and

course descriptions, as well as learner feedback.

With over 10,000 content offerings across business, technology, and data science from leading university and industry partners worldwide, our catalog spans the wide variety of skills relevant to the competencies in this report.

For each skill-content pair, this machine learning system outputs a score that captures the likelihood of the skill being taught in the content. To define the set of skill-to-content tags that power this report, we tune a cutoff threshold based on expert feedback from our content strategy team.

Over-indexing or "top" skills

To determine which skills learners are most interested in within a particular industry or job group, we look for skills that over-index in the data by the number of enrollments. While trending skills reveal what is generally popular,

over-indexing skills reveal what is disproportionately popular within a particular group.

The methodology works as follows:

1. Compute the share of enrollments in courses teaching {skill S} overall (say 20%)

2. Compute the share of enrollments in courses teaching {skill S} from learners within group G (say 30%)

3. Compute the "skill-quotient" of {skill S} for group G as (30% / 20% = 1.5)

The notion of whether a course teaches a skill is derived from the Coursera Skill Graph, described on the previous page. The same methodology is applied to calculate over-indexed competencies and roles by substituting {skill S} with {competency C} or {role R}. {Role R} consists of the set of skills required for a role, as defined by our skill-to-occupation mappings.

Endnotes

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