



## A Model for Updating the Master's Curriculum in Auditing: Using the Meta-Synthesis Method

**Zahra Dianati Deilami**

Associate Professor of accounting, Faculty of financial sciences, Kharazmi University, Tehran, Iran.  
(corresponding author).  
([dianati@khu.ac.ir](mailto:dianati@khu.ac.ir))

**Mohammad Hashemi**

M.Astudent in accounting, Faculty of Financial Sciences, Kharazmi University, Tehran, Iran.  
([mohammadhashemi1417@gmail.com](mailto:mohammadhashemi1417@gmail.com))

**Mohammad javad Sheikh**

Associate Professor of accounting, Faculty of financial sciences, Kharazmi University, Tehran, Iran.  
([m.sheikh@khu.ac.ir](mailto:m.sheikh@khu.ac.ir))

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### ABSTRACT

The gap between professional and academic expectations is a hot topic in the accounting and auditing field in Iran. The boom in new innovations and the development of new technologies, such as artificial intelligence, data mining and big data, and the changes in the business environment require that accounting graduates have sufficient knowledge and skills to meet the changing expectations of stakeholders. On the other hand, the curriculum for the Master of Auditing was approved in 2016 and should have been updated after 5 years, which has not been done so far, so the present qualitative research was conducted with the aim of updating this curriculum. In this study, using the meta-synthesis method (Sandolowski and Barroso model), and content analysis of 45 previous domestic and foreign related articles from 1976 (1355 AH) to 2024 (corresponding to 1403 AH), as well as reviewing the curricula of 11 foreign universities offering this field in the world, 65 course titles that need to be included in the curriculum of the Master of Auditing have been identified. The most important frequently repeated courses suggested based on Shanon entropy analysis are; data mining and analysis and big data, analytical thinking and problem-solving skills, and IT auditing. The findings of this study can be used by those involved in updating the curriculum in the Ministry of Science.

**Keywords:** Curriculum, Master of Auditing, Updating the Curriculum, Auditing

## 1. Introduction

Due to the pivotal role of auditing in various business sectors, the discipline of auditing has gained substantial importance in developed countries over the past three decades (Chai et al., 2020). In knowledge-based professions such as accounting and auditing, educational systems—because of their key role in knowledge policymaking and technological advancement—are obliged not only to provide comprehensive infrastructure, but also to identify and effectively analyze educational needs in order to supply the required technical knowledge and professional skills for specialists, including accountants and auditors (Shaeri Anagiz et al., 2017). Therefore, there must be a proper alignment between auditing curricula and market demands.

However, findings from previous studies (e.g., Baghomian & Rahimi Baghi, 2011; Etemadi & Fakhari, 2004; Deyanti et al., 2024) indicate that accounting and auditing education in Iranian universities has been ineffective in meeting professional and market needs, as graduates often lack the necessary skills.

Moreover, the auditing environment itself is rapidly evolving alongside emerging information technologies, emphasizing complex decision-making and a broader range of competencies (Shaeri Anagiz et al., 2017). Consequently, updating and revising auditing curricula has become essential to equip graduates with diverse skills and attributes required in the modern workplace. Nonetheless, the findings of Deyanti Deylami et al. (2024) reveal that the external quality of the Master's curriculum in Auditing—defined by Fathi Vajargah and Shafiei (2008) as the effectiveness of educational outcomes in improving graduates' knowledge, skills, and attitudes—is considered unsatisfactory by both professional auditors (as employers) and program alumni, particularly in terms of transferring the competencies necessary for professional auditing tasks.

Furthermore, the dynamic nature of global scientific and professional developments prevents any curriculum from remaining effective for an extended period. Continuous updates promote student advancement, institutional growth, and national development as a whole. Hence, as Noravesh and Moshayekhi (2005) emphasized, curricula must evolve from static to dynamic structures through regular needs assessments. Reflecting this notion, the

preamble to the approved Master's program in Auditing by Iran's Ministry of Science, Research, and Technology states that the curriculum was valid for five years from April 24, 2016, after which it was to be revised. However, as of September 2024, no updated version has been issued. This underscores the critical importance of revising and modernizing the Master's curriculum in Auditing.

Accordingly, this study employs a meta-synthesis approach combined with content analysis of domestic and international scholarly articles, as well as a comparative review of auditing curricula at eleven foreign universities, to identify and propose the essential course topics that should be incorporated in updating the Master's curriculum in Auditing in Iran.

## Theoretical Framework

The primary objective of auditing education is to develop the knowledge, skills, and competencies necessary for examining accounting records and other evidential materials used by organizations in preparing their financial statements, and to enable auditors to express a professional opinion on whether such statements present a true and fair view of the entity's financial position in accordance with accounting standards (Khamis, 2020). Therefore, universities must train auditing students to competently perform these professional responsibilities (Giles, 2019). On this basis, auditing has been incorporated as a core subject within accounting curricula at various educational levels worldwide.

Recent evidence shows that auditing is now taught as an independent or combined academic program in several universities around the world. These programs typically last one to two years and often culminate in a thesis. Admission requirements usually include a bachelor's degree or an equivalent qualification in related fields such as business, finance, accounting, or management. Importantly, as shown in Table 6, the content of Master's programs in Auditing varies significantly across universities. In contrast to Iran, curricula in other countries are typically designed by academic departments based on national and regional needs assessments.

In Iran, the specialization in Auditing was first introduced into the accounting curriculum in 2002, following its approval by the Supreme Council of Curriculum Planning in its 338th extraordinary session. The only public university that initially

admitted students in the Auditing track at the undergraduate level was the University of Economic Sciences. Students in this program completed nine additional specialized credits beyond the core accounting curriculum, including:

1. Governmental Auditing (2 credits)
2. Auditing of Computerized Accounting Systems (3 credits)
3. Current Issues in Auditing (2 credits)
4. Auditing III (3 credits).

It should be noted that, following a Ministry of Science decision to eliminate specializations at the undergraduate level, the Auditing major was removed from the national entrance examination catalog in 2015, leaving Accounting as the sole program.

According to the Ministry's official database, three approved curricula exist for the Master's degree in Auditing: the first, approved in 1998 (as an initial design); the second, approved in 2013 (as a revision); and the third, approved in 2016 (as a revised version, currently active and used by universities).

Interestingly, despite the initial curriculum being developed in 1997, student admissions to this program began only in 2012 and have continued since. Based on the 2024 graduate admission guide, six public universities—including Allameh Tabataba'i University, Kharazmi University, Alzahra University, Ferdowsi University of Mashhad, Shahid Bahonar University of Kerman, and Shahid Chamran University of Ahvaz (with a total intake of 61 students)—along with various branches of Islamic Azad University (540 students), three Payame Noor centers (Tehran West, Sari, and Birjand, totaling 50 students), and several non-profit universities (406 students), offer admission to the Master's program in Auditing. This highlights the importance of this field and the need to revise it.

This study draws on an integrated body of theories in curriculum studies, learning psychology, and instructional design to construct a coherent conceptual framework for updating the master's curriculum in auditing in alignment with professional needs. These theoretical perspectives are not treated as independent strands but as interconnected components of a unified logic in which curriculum renewal is viewed as a systemic, dynamic, and evidence-based process responding to environmental, technological, and professional changes.

At the core of this framework lies Curriculum Theory, which provides the macro-level rationale for change. According to Coşkun Yaşar and Aslan (2021), curriculum should be understood as a living system that evolves in interaction with societal, professional, and technological transformations. From this perspective, the auditing curriculum cannot remain a static compilation of theoretical knowledge; rather, it must reflect the emerging realities of the auditing profession—international standards, ethical imperatives, and the pervasive impact of digital technologies such as artificial intelligence, data analytics, and big data. Hence, curriculum theory underpins the strategic necessity of revising and modernizing the current master's program in auditing to ensure its relevance and responsiveness to the profession's evolving expectations.

Complementing this macro orientation, Learning Theories—particularly Constructivism—illuminate the mechanisms through which effective learning occurs within the redesigned curriculum. As Feder (2024) explains, learning becomes meaningful when students actively engage in constructing knowledge through experience, interaction, and reflection. In a professional field like auditing, this implies shifting from passive, lecture-based instruction toward experiential approaches such as case analyses, audit simulations, problem-based learning, and data-driven projects. These strategies align cognitive processes with the authentic contexts of practice, thereby bridging the persistent gap between academic preparation and professional performance.

Learning theories naturally intersect with Curriculum Design Models, which operationalize theoretical insights into structured pedagogical plans. As emphasized by Munna and Kalam (2021), curriculum design should proceed from a systematic needs analysis of stakeholders—including students, educators, employers, and regulatory bodies—followed by the articulation of learning objectives, the selection of relevant content, and the establishment of assessment strategies. Within this study, such models (e.g., Tyler's and Kerr's frameworks) translate theoretical imperatives into concrete curriculum architecture, providing a mechanism to embed emergent courses such as Data Analytics and Big Data Auditing, Analytical Thinking and Problem Solving, and IT Auditing within the master's program.

Finally, these structural and pedagogical dimensions are anchored in the Psychological Foundations of Learning, particularly theories related to adult learning (andragogy) and experiential learning. As Hidayat, Rahmatullah, and Suyudi (2023) argue, effective curriculum design in higher education must align with learners' cognitive, motivational, and experiential characteristics. Graduate auditing students are typically adult learners with prior exposure to accounting or professional contexts; therefore, instructional strategies must leverage their autonomy, self-direction, and preference for applied, problem-centered learning experiences. Psychological foundations thus ensure that curriculum changes are not only theoretically and professionally justified but also psychologically sustainable and learner-centered. Conceptually, the interrelationship among these theories can be described as a continuum:

1. **Curriculum Theory** defines *why* change is necessary;
2. **Learning Theories** explain *how* learning should occur within that change;
3. **Curriculum Design Models** determine *what* and *how* to teach; and
4. **Psychological Foundations** validate that these transformations are congruent with the learners' characteristics and motivation.

This integrated framework supports the present study's objective—to develop an evidence-based, profession-oriented model for revising the master's curriculum in auditing in Iran. By linking theoretical perspectives with empirical analysis of 45 international and domestic studies and curriculum documents from 11 global universities, the research moves from abstraction to application. Ultimately, the synergy among these theoretical dimensions enables the creation of a curriculum that narrows the long-standing university-profession gap, cultivates analytical and technological competencies, and prepares graduates to perform effectively in an evolving digital auditing landscape.

## 2. Literature Review

A review of previous studies on auditing curriculum design indicates that numerous investigations have examined the skills and knowledge required of auditors, as well as the curricular and pedagogical changes necessary to align auditing education with

professional practice. The most relevant studies are summarized below.

Glenn and White (1983) concluded that successful and high-quality auditing requires the inclusion of communication, listening, writing, analytical, management, leadership, and computer skills in auditing curricula.

Armitage (2008) examined the change in the perceived importance of auditing topics between 2000 and 2005. His findings revealed that the relative importance of several topics had shifted. In 2005, internal control reporting and fraud awareness were considered more important than in 2000, while topics such as information systems auditing, computer-assisted auditing techniques, governmental auditing, nonprofit auditing standards, and auditors' legal liability were rated as less important.

Kearns et al. (2009) emphasized the importance of information systems education for auditors, showing that high-quality auditing requires adequate training and proficiency in understanding and evaluating complex information generated by such systems.

Helliar et al. (2009) identified professional ethics, fraud awareness, corporate governance, computer auditing, and information systems as key topics essential for auditing education and professional training.

De Gabriel (2009) found that forensic accounting occupies an increasingly important position in the auditing process, and that auditors need to develop related forensic accounting skills to remain effective in a changing professional environment.

Chaffey et al. (2011) highlighted the critical importance of technology and computer literacy for auditors. They proposed that auditing programs should emphasize soft skills such as communication, negotiation, critical thinking, analytical reasoning, and teamwork.

Yüar and Gungormus (2011) investigated Turkish auditors' perceptions of the skills accounting students should acquire. From 45 identified auditing skills, they found professional ethics, teamwork, and integrity to be the most highly prioritized.

Crawford et al. (2011) emphasized the importance of developing general skills in auditing education, including analytical thinking, social and communication abilities (both oral and written), decision-making, and leadership.

Eskandari (2013), in a study titled “*Auditing Education and the Digital Economy through Real-Time Processing*,” proposed that auditing curricula should include topics such as ethics (professional codes of conduct), familiarity with emerging technologies, client interaction skills, accounting and auditing standards, teamwork, and IT auditing.

Sirivardane et al. (2014) ranked 20 key skills for auditors, finding that professional integrity was the most important, followed by professional skepticism and an understanding of clients’ businesses.

Bloch et al. (2015) noted a fundamental gap between academia and professional auditing practice: while academics emphasize theory, practitioners prioritize application. Practicing auditors ranked practically oriented course topics as more important.

Sledginoski et al. (2017) concluded that big data, technology, and information systems must be integrated into the auditing curriculum.

Shaeri Anagiz et al. (2017) examined the skill requirements of independent auditors, financial managers, and financial analysts in the Tehran Stock Exchange. Using Katz’s model—which categorizes skills as technical, human, and conceptual—they found that technical skills were perceived as the most critical.

Nasirzadeh and Khalifeh Soltani (2018) identified the skills, knowledge, and attitudes required of contemporary auditors in Iran. They found that the most important competencies were accounting and auditing experience, mastery of professional standards and regulations, and integrity. The greatest gap between perceived importance and actual performance related to planning and foresight abilities, while the smallest gap pertained to organizational perception. Their study recommended revising auditing education by adding courses in verbal, listening, and writing skills, as well as implementing practical internship programs.

Norman et al. (2018) identified sixteen essential skills for accounting graduates, including technical and functional competence, organizational and business management skills, interpersonal and communication (oral and written) skills, intellectual and problem-solving skills, teamwork, a willingness to learn, IT proficiency, research and analytical abilities, motivation and enthusiasm, reliability and accountability, honesty and ethics, flexibility and adaptability, critical thinking, and professional behavior.

Giles (2019) conducted a study titled “*How Artificial Intelligence and Machine Learning Will Transform the Future of Financial Auditing: An Analysis of the University of Tennessee’s Graduate Accounting Curriculum*.” The study emphasized the necessity of integrating AI and machine learning into auditing curricula and discussed their implications for graduate-level auditing education.

Eirafhemi et al. (2021) found that most auditing students were unable to produce professional audit reports. Accordingly, they stressed the need to teach professional writing skills for audit reporting—together with professional skepticism, ethics, and judgment—within auditing programs.

Pouladian and Sarvestani (2021), in a study titled “*Soft Skills of Accounting Graduates for Entry into the Auditing Profession: The Missing Link in University Accounting and Auditing Education*,” examined the importance of soft skills for bridging the gap between university education and professional expectations. Their findings showed that students interested in auditing careers must develop communication, decision-making, leadership, and social skills to enhance individual, organizational, and professional performance.

Asadi (2022), in an article on “*Key Challenges of the Auditing Profession and the Formation of a Supervisory Body*,” highlighted the growing importance of equipping the auditing profession with new technologies. He emphasized that with the global expansion of digital transformation, it is essential to implement computer-based auditing and establish standards and regulations supporting technologies such as artificial intelligence, machine learning, blockchain, and data analytics.

Malkian et al. (2022) proposed a framework for enhancing auditor quality and competence from both professional and employer perspectives. They identified six core components: personality traits, leadership skills, communication abilities, analytical, research, and design skills, capability-enhancement competencies, and essential auditing skills.

Booker et al. (2023) recommended the inclusion of topics such as artificial intelligence, information systems, and data analytics skills in auditing courses to enhance graduates’ technological readiness.

Maleki Oskouei (2023) investigated the advantages and limitations of applying artificial intelligence in auditing and concluded that auditors

must, in addition to accounting knowledge, acquire a deep understanding of emerging technologies such as AI, information systems, big data, and data analytics, and that the auditing profession must be restructured accordingly.

Lin and Yu (2024), analyzing deficiencies in traditional auditing curriculum design within the framework of AI and digital technologies, proposed optimization strategies. They concluded that conventional curricula fail to meet modern educational objectives. Their suggested additions included artificial intelligence, data analytics, political system awareness, digital skills, and the use of auditing software.

Juma'h et al. (2025) examined the impact of active and experiential learning combined with continuous feedback on graduate students' performance in an *Auditing Analytics* course. Students assumed the role of auditors in evaluating real or hypothetical clients and completed four interconnected assignments, receiving continuous feedback on the first three to improve their final submissions. The findings indicate that this active and experiential learning approach significantly enhances student performance while developing practical skills aligned with the professional requirements of accounting and auditing.

### 3. Research Question

According to Webb and Shafer (2016), the gap between auditing education and auditing practice significantly affects students' preparedness for real-world situations and influences their employability. Employers are also among the stakeholders directly impacted by this gap. Moreover, with the development of advanced technologies such as data mining and big data, many traditional auditing tasks are becoming automated. Therefore, modern auditors must acquire technical and analytical skills consistent with technological advancements (Zhang et al., 2018).

If auditing curricula fail to incorporate these emerging technologies, the gap between academic education and professional practice will continue to widen in the future. Accordingly, the central research question of this study is formulated as follows:

#### Research Question

Based on the auditing curricula of leading international universities and previous research findings, *which*

*course topics should be included in the Master's program in Auditing in Iran?*

### 4. Methodology: Qualitative Meta-Synthesis

as the goal is not merely to , interpretive paradigm The research design adopts an aggregate data but to synthesize and interpret the meaning embedded within .diverse qualitative research accounts regarding auditing education requirements specifically following the , Qualitative Meta-Synthesis The chosen method is the .robust seven-step procedure advocated by Sandelowski and Barroso (2007):

#### "Step One: Formulating the Research Question

To execute the research accurately, in the first step, answers must be provided for 4 main questions related to the statistical population, the research objective, the research methodology, and the time frame. These four questions have been answered in Table Number (1)

**Table 1: General Questions for Implementing Meta-Synthesis**

| Question Component | Answers to Questions                                                                                                                                         |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>What</b>        | What are the courses that should be included in the Master's level Auditing curriculum?                                                                      |
| <b>Who</b>         | University websites, books, articles, and theses that address the topic of necessary courses for the Master's in Auditing.                                   |
| <b>When</b>        | Writings from the years 1976 CE (1355 SH) up to 2024 CE (corresponding to 1403 SH).                                                                          |
| <b>How</b>         | Identifying and extracting previous works, analyzing them, and subsequently categorizing the courses that should be in the Master's level Auditing syllabus. |

#### Step Two: Systematic Literature Review

In this step, the keywords listed in Table (2) were searched across foreign databases accessible in Iran, such as Google, Google Scholar, ScienceDirect, Scopus, and SSRN, and similar platforms, as well as domestic databases including the Academic Center for Education, Culture and Research (Jahad Daneshgahi) information base, Noormags database, National Conference Proceedings database, National Publications database, Irandoc, and the National Library of Iran. Ultimately, 380 articles were found and saved.

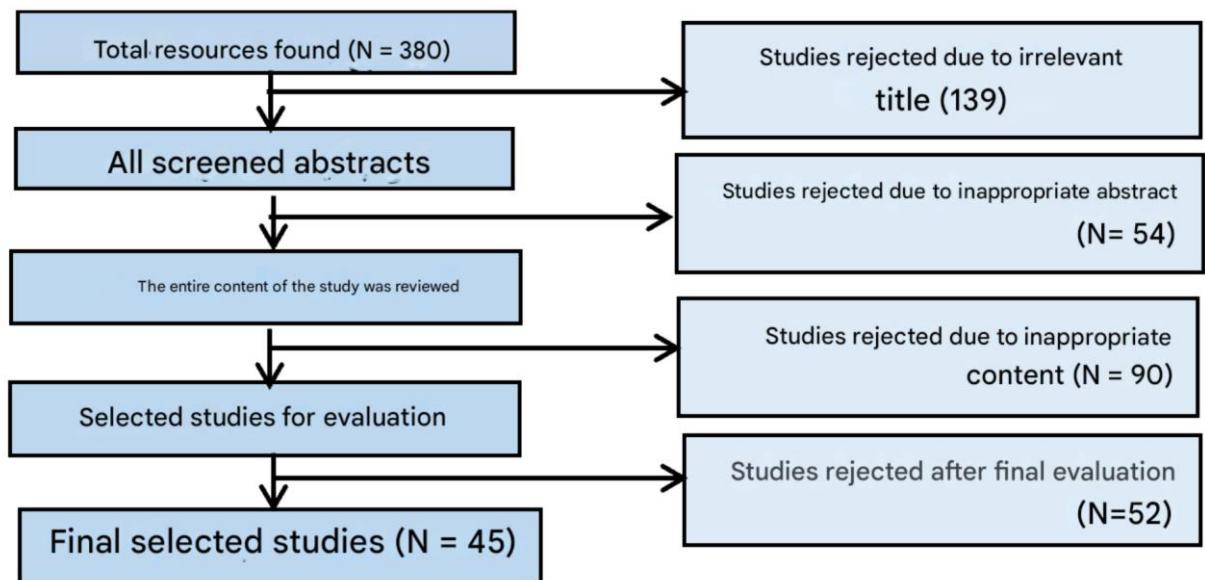
### Step Three: Searching and Selecting Appropriate Texts

In the meta-synthesis method, we must have specific criteria and standards for the process of extracting findings from the located scientific literature. Therefore, using the **CASP** method, each article was **qualitatively** evaluated. Each article received a score

from 1 to 5 when faced with these conditions. Articles whose total score reached **20 or higher (45 articles)** were qualitatively approved, and the remaining articles were excluded from the process (Figure 1).

**Table 2: Keywords Searched for Finding Scientific Literature Relevant to the Research Topic**

| Keywords                                                                                      |
|-----------------------------------------------------------------------------------------------|
| Auditing Curriculum                                                                           |
| Future of Auditing                                                                            |
| Auditing Education                                                                            |
| Update Audit Curricula                                                                        |
| Emerging Technologies + auditing                                                              |
| CPA Preparatory Courses and Syllabus                                                          |
| Audit Teaching                                                                                |
| Audit Education for Future                                                                    |
| CPA Education Program                                                                         |
| Knowledge,skills,ability +auditor                                                             |
| Auditing Curriculum Improvement                                                               |
| Auditing Curriculum Redesign                                                                  |
| Artificial Intelligence, Machine Learning, Data Analytics, and Blockchain in Auditing Courses |
| Auditing Courses                                                                              |
| Training of Auditors                                                                          |
| Gap in Expectations from Auditors                                                             |



**Figure (1). The process of evaluating and selecting articles**

## 5- Results

The fourth stage in meta-synthesis is the extraction of information from sources (with the help of content analysis) and the fifth stage is the analysis and synthesis of findings. In the present study, by analyzing the content of the texts obtained from the previous stage, first all the course titles available in

universities and selected articles were identified, then those courses that are part of the curriculum of this discipline in the undergraduate accounting degree were excluded, and finally the courses that should be included in the curriculum of the master's degree in auditing were counted and arranged according to their frequency according to Table (3).

**Table (3). Master's degree courses in auditing, extracted from foreign university courses and related articles**

| In What is the current title of senior auditor in Iran? |     | Abundance | Source (article or foreign universities)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Course name In Persian                                                                               | Row |
|---------------------------------------------------------|-----|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----|
| No                                                      | Yes |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                      |     |
| *                                                       |     | 23        | Comillas Business School ICADE- Rennes School of Business, DePaul University- USA / Felsky (2023), Irafhimi (2019), Booker et al. (2023), Blix et al. (2021), Hellier et al. (2009), Hansen (2010), Ab-Vahid and Greig (2020), Armitage (2008), Armitage and Poyser (2010), Chan and Kogan (2016), Crawford et al. (2010), Chaffee et al. (2011), Lin and Yu (2024), Ulrich et al. (2009), Johnson et al. (2003), Eshani Ashari et al. (1401), Malekian et al. (1401), Pouladian and Sarvestani (1400), Nasirzadeh and Khalifa Soltani (1397), Nouri (1402) | Data mining , analytics and big data<br>Data mining and analytics and big data                       | 1   |
| *                                                       |     | 19        | Comillas ICADE Business School - Spain, EDC Paris Business School - France, Athenaeum University Bucharest - Romania, University of Luxembourg - France / Garcia et al. (2013), Vasarhelyi et al. (2010), Irafhimi (2019), Hellier et al. (2009), Drink et al. (2023), Hansen (2010), Armitage (2008), Bryan and Smith (1997), Armitage and Poyser (2010), Chaffee et al. (2011), Ulrich et al. (2009), Johnson et al. (2003), Malekian et al. (1401), Eskandari (1392), Eshani Ashari et al. (1401), Nasirzadeh and Khalifa Soltani (1397)                 | Ethics ( Code of Professional Conduct) in Auditing<br>Ethics in auditing                             | 2   |
|                                                         | *   | 19        | International University of Greece, DePaul University-USA / Blix et al. (2021), Vasarhelyi et al. (2010), Irafhimi (2019), Cortes et al. (2009), McCartney et al. (2002), Hellier et al. (2009), Reinstein et al. (2018), Hansen (2010), Armitage (2008), Lin (2021), Lin and Yu (2024), Johnson et al. (2003), Ithna Ashari et al. (1401), Eskandari (1392), Dianti Deilami (1399), Nasirzadeh and Khalifa Soltani (1397), Nouri (1402)                                                                                                                    | Information Technology Audit<br>IT audit / The impact of information technology on the audit process | 3   |
| *                                                       |     | 17        | University of Luxembourg- France, Polytechnic Institute of Tomar- Portugal , Athenaeum University of Bucharest - Romania / Garcia et al. (2013), Vasarhelyi et al. (2010), Blix et al. (2021), McCartney et al. (2002), Barak et al. (2016), Nouri (1402), E. Rafeimi ( 2019 ) , Reinstein et al . (2018), Ulrich et al . (2009), Arens and Elder (2006), Johnson et al. (2003) , Booker et al. (2023), Chaffee et al. ( 2011), Malekian et al. (1401)                                                                                                      | Risk management<br>Risk Management                                                                   | 4   |

| In What is the current title of senior auditor in Iran? |     | Abundance | Source (article or foreign universities)                                                                                                                                                                                                                                                                                                                                                            | Course name In Persian                                                                     | Row |
|---------------------------------------------------------|-----|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-----|
| No                                                      | Yes |           |                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                            |     |
| *                                                       |     | 16        | International University of Greece / Irafiemi ( 2019), Drink et al. (2023), Blix et al. (2021), McCartney et al. (2002), Hellier et al. (2009), Reinstein et al. (2018), Hansen (2010), Armitage (2008), Armitage and Poyser (2010), Chaffee et al. (2011), Ulrich et al. (2009), Arens and Elder (2006), Johnson et al. (2003), Sheri Anaghiz et al. (2017), Nasirzadeh and Khalifa Soltani (2018) | Fraud audit<br>Fraud auditing                                                              | 5   |
| *                                                       |     | 13        | EDC Paris Business School- France, Athenaeum University Bucharest-Romania, DePaul University- USA / Garcia et al. (2013), Chen et al. (2020), Vasarhelyi et al. (2010), Cortes et al. (2009), Ab Vahid and Greig (2020), Greenstein and McKay (2004), Hellier et al. (2009), Armitage (2008), Johnson et al. (2003)                                                                                 | Audit information systems<br>Audit information systems                                     | 6   |
| *                                                       |     | 12        | University of Luxembourg - France, ESCP Business School France, Business School Comillas ICADE - Spain, DePaul University- USA, Polytechnic Institute of Tomar- Portugal / Garcia et al. (2013), Vasarhelyi et al. (2010), Booker et al. (2023), Reinstein et al. (2018), Esni Ashari et al. (1401), Dianti Deilami (2019), Nouri (1402)                                                            | Applied statistics in auditing<br>Applied statistics in auditing<br>(/Quantitative Methods | 7   |
| *                                                       |     | 12        | International Hellenic University, Rennes Business School, University of Luxembourg- France, Athenaeum University Bucharest- Romania , Comillas ICADE Business School- Spain, EDC Paris Business School- France, Frankfurt School of Finance and Management- Germany, DePaul University- USA /Shaari Anaghiz et al. (2017), Garcia et al. (2013), Asni Ashari et al. (2014), Nouri (2015)           | Financial statement analysis<br>financial statement analysis                               | 8   |
| *                                                       |     | 12        | ESCP Business School - France, Comillas ICADE Business School - Spain, Athenaeum University Bucharest - Romania, Frankfurt School of Finance and Management - Germany / Garcia et al. (2013), Vasarhelyi et al. ( 2010), Hellier et al. (2009), Armitage (2008), Sheri Anaghiz et al. (2017), Nouri (2014)                                                                                          | International Accounting<br>International Accounting                                       | 9   |
|                                                         | *   | 12        | International Hellenic University, University of Luxembourg- France, Polytechnic Institute of Tomar- Portugal, Frankfurt School of Finance and Management- Germany / Garcia et al. (2013) Barak et al. (2016), De Villiers and Fouché (2015), Chaffee et al. (2011), Johnson et al. (2003), Sheri Anaghiz et al. (2017), Nasirzadeh and Khalifa Soltani (2018), Nouri (2013)                        | Application of laws and regulations in auditing<br>law and regulation in auditing          | 10  |
|                                                         | *   | 11        | EDC Paris Business School - France, ESCP Business School - France, Polytechnic Institute of Tomar - Portugal, Athenaeum University of Bucharest - Romania, DePaul University - USA / Hansen ( 2010), Armitage (2008), Lin (2021), Johnson et al. (2003), Sheri Anaghiz and colleagues (2017)                                                                                                        | Internal audit<br>Internal audit                                                           | 11  |
| *                                                       |     | 10        | University of Luxembourg- France, Athenaeum University of Bucharest-Romania, DePaul University- USA, Frankfurt School of Finance and Management- Germany / Garcia et al. (2013), Armitage (2008), Hellier et al. (2009), Barak et al. (2016), De Villiers and Fouché (2015), Ulrich et al. (2009)                                                                                                   | Corporate governance<br>Corporate Governance                                               | 12  |
| *                                                       |     | 10        | ESCP Business School – France, EDC Paris Business School – France, Comillas ICADE Business School – Spain, University of Luxembourg – France, Kaunas University of Technology – Lithuania/ Wang and Wang ( 2022), Iraefhimi (2019), Chen (2021), Reinstein et al. (2018), Nouri (1402)                                                                                                              | Professional internship/practical audit courses<br>Professional mission/auditing practice  | 13  |

| In What is the current title of senior auditor in Iran? |     | Abundance | Source (article or foreign universities)                                                                                                                                                                                                                                                                                                                      | Course name In Persian                                                          | Row |
|---------------------------------------------------------|-----|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----|
| No                                                      | Yes |           |                                                                                                                                                                                                                                                                                                                                                               |                                                                                 |     |
| *                                                       |     | 10        | Rennes Business School , France, ESCP Business School – France, EDC Paris Business School – France, Athenaeum University Bucharest – Romania, Kaunas University of Technology – Lithuania, Frankfurt School of Finance and Management – Germany, DePaul University – USA / Barak et al. (2016), Esni Ashari et al. (1401), Malekian et al. (1401)             | Strategic management<br>Strategic management                                    | 14  |
|                                                         | *   | 10        | International Hellenic University, Rennes Business School, University of Luxembourg- France, ESCP Business School – France, Kaunas University of Technology- Lithuania, Comillas ICADE Business School- Spain, Athenaeum University Bucharest- Romania, Frankfurt School of Finance and Management- Germany/ Garcia et al. (2013), Ithna Ashari et al. (1401) | Management Accounting<br>Management Accounting                                  | 15  |
| *                                                       |     | 7         | Wang and Wang ( 2022), Felski (2023), Wirich et al. (2018), Anteclyffe et al. (2012), Chan and Coogan (2016), Lin and Yu (2024), Noori (1402)                                                                                                                                                                                                                 | Auditing applications<br>Financial Application and Audit Software               | 16  |
| *                                                       |     | 7         | International Hellenic University, Kaunas University of Technology - Lithuania, Polytechnic Institute of Tomar - Portugal, Comillas Business School ICADE - Spain, Frankfurt School of Finance and Management - Germany / Johnson et al. (2003), Sheri Anaghiz et al. (2017)                                                                                  | Valuation of business units and assets<br>Evaluation of business and assets     | 17  |
| *                                                       |     | 5         | International Hellenic University, DePaul University-USA / Iraefhimi ( 2019), Reinstein et al. (2018), Chen (2021)                                                                                                                                                                                                                                            | Advanced Auditing<br>Advanced Auditing                                          | 18  |
| *                                                       |     | 5         | ESCP Business School – France, Frankfurt School of Finance and Management – Germany, DePaul University – USA / Reinstein et al. ( 2018)                                                                                                                                                                                                                       | Events and seminars<br>Events & Seminars                                        | 19  |
| *                                                       |     | 5         | Booker et al. ( 2023), Giles (2019), Lin and Yu (2024), Yang (2022), Noori (1402)                                                                                                                                                                                                                                                                             | Application of intelligence<br>Artifact in auditing<br>artificial intelligence  | 20  |
| *                                                       |     | 5         | Comillas ICADE Business School - Spain, University of Luxembourg - France / Reinstein et al. ( 2018), Eshani Ashari et al. ( 1401 ) , Nasirzadeh and Khalifah Soltani ( 2018 )                                                                                                                                                                                | Current topics in auditing<br>Contemporary issues in auditing                   | 21  |
|                                                         | *   | 5         | International University of Greece, Rennes Business School, Polytechnic Institute of Tomar - Portugal, Frankfurt School of Finance and Management - Germany / Nasirzadeh and Khalifa Soltani ( 2018)                                                                                                                                                          | Research Methodology in Auditing<br>Research Methods in Auditing                | 22  |
| *                                                       |     | 4         | Rennes Business School, EDC Paris Business School- France, Business School ESCP – France, Athenaeum University Bucharest – Romania                                                                                                                                                                                                                            | Management control<br>Management Control                                        | 23  |
| *                                                       |     | 4         | University of Luxembourg-France, Business School ESCP – France, EDC Paris Business School – France, Frankfurt School of Finance and Management – Germany                                                                                                                                                                                                      | Corporate financing<br>Corporate Finance                                        | 24  |
| *                                                       |     | 4         | EDC Paris Business School - France/ Ithna Ashari et al. ( 1401), Malekian et al. (1401), Nasirzadeh and Khalifa Soltani (2018)                                                                                                                                                                                                                                | Project Management<br>Project management                                        | 25  |
|                                                         | *   | 4         | Polytechnic Institute of Tomar - Portugal / Johnson et al. ( 2003), Hansen (2010), Dianti Delami (2010)                                                                                                                                                                                                                                                       | Operational audit<br>Operational Audit                                          | 26  |
| *                                                       |     | 4         | Athenaeum University of Bucharest - Romania / Hansen ( 2010), Johnson et al. (2003), Cho and Zhang (2023)                                                                                                                                                                                                                                                     | Government audit<br>Governmental auditing/External audit of public institutions | 27  |

| In What is the current title of senior auditor in Iran? |     | Abundance | Source (article or foreign universities)                                                                                        | Course name In Persian                                                                                                    | Row |
|---------------------------------------------------------|-----|-----------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----|
| No                                                      | Yes |           |                                                                                                                                 |                                                                                                                           |     |
|                                                         |     | 4         | Johnson et al. ( 2003), Reinstein et al. (2018), Nasirzadeh and Khalifa Soltani (2018), Nouri (2013)                            | Familiarity with the application of auditing in various industries<br>Application of auditing in different industries     | 28  |
| *                                                       |     | 4         | DePaul University- USA / Booker et al. ( 2023), Yang (2022), Lin and Yu (2024)                                                  | Computer Programming Basics<br>Introduction to programming / computer programming                                         | 29  |
| *                                                       |     | 4         | International Hellenic University, EDC Paris Business School-France, Rennes/ Lin Business School ( 2021)                        | Social responsibility audit and corporate sustainability reporting<br>social audit and corporate sustainability reporting | 30  |
|                                                         | *   | 3         | University of Luxembourg - France, Athenaeum University Bucharest - Romania / Noori (1402),                                     | Audit research<br>Audit research                                                                                          | 31  |
| *                                                       |     | 3         | EDC Paris Business School - France/Sheri Anaghiz and colleagues ( 2017)                                                         | Asset Management<br>Asset management                                                                                      | 32  |
| *                                                       |     | 3         | DePaul University- USA / Vasarhelyi et al. ( 2010), Arens and Elder (2006)                                                      | Forensic accounting<br>forensic accounting                                                                                | 33  |
|                                                         | *   | 3         | Wang and Wang ( 2022), Chen (2021), Lin (2021),                                                                                 | Auditing theory<br>audit theory                                                                                           | 34  |
| *                                                       |     | 3         | Liu et al. ( 2021), Chu and Zhang (2023), Lin and Yu (2024)                                                                     | Introduction to schools of thought and political science<br>ideological and political                                     | 35  |
| *                                                       |     | 3         | International Hellenic University, Rennes Business School, Kaunas University of Technology - Lithuania                          | Advanced Tax<br>Advanced Taxation                                                                                         | 36  |
| *                                                       |     | 3         | International University Greece , University of Luxembourg-France , Nasirzadeh and Khalifah Soltani ( 2018 )                    | Current topics in accounting<br>Selected Topics in Accounting                                                             | 37  |
| *                                                       |     | 3         | EDC Paris Business School - France/Garcia et al . ( 2013 ), Johnson et al. ( 2003)                                              | Legal inspection<br>Legal audit                                                                                           | 38  |
| *                                                       |     | 3         | Frankfurt School of Finance and Management - Germany, University of Luxembourg - France, Ren 's Business School Country: France | Business Management<br>Business management                                                                                | 39  |
| *                                                       |     | 2         | International Hellenic University, EDC Paris Business School - France                                                           | Entrepreneurship<br>Entrepreneurship                                                                                      | 40  |
|                                                         | *   | 2         | University of Luxembourg - France, Athenaeum University Bucharest - Romania                                                     | Accounting theory<br>Accounting Theory                                                                                    | 41  |
| *                                                       |     | 2         | University of Luxembourg- France / Nouri ( 1402)                                                                                | Applied econometrics<br>Applied Econometrics                                                                              | 42  |
| *                                                       |     | 2         | Reinstein et al. ( 2018), Armitage (2008)                                                                                       | Society of Certified Public Accountants exam topics<br>CPA exam/Certification requirements                                | 43  |

| In What is the current title of senior auditor in Iran? |     | Abundance | Source (article or foreign universities)                                                                                                                                                                             | Course name In Persian                           | Row |
|---------------------------------------------------------|-----|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-----|
| No                                                      | Yes |           |                                                                                                                                                                                                                      |                                                  |     |
| *                                                       |     | 1         | Business school ESCP – France                                                                                                                                                                                        | Marketing<br>Marketing                           | 44  |
| *                                                       |     | 1         | Athenaeum University of Bucharest - Romania                                                                                                                                                                          | International Economics<br>International economy | 45  |
| *                                                       |     | 1         | School of Finance and Management - Germany                                                                                                                                                                           | International Law<br>International law           | 46  |
| *                                                       |     | 1         | Chaffee et al. ( 2011)                                                                                                                                                                                               | Fundamentals of Philosophy<br>philosophy         | 47  |
| *                                                       |     | 1         | Lin and Yu ( 2024)                                                                                                                                                                                                   | Blockchain<br>blockchain                         | 48  |
| *                                                       |     | 1         | Dianti Deylami ( 2019)                                                                                                                                                                                               | Tax audit<br>Tax audit                           | 49  |
| *                                                       |     | 1         | Nasirzadeh and Khalifa Soltani ( 2018)                                                                                                                                                                               | Advanced English<br>Advanced English             | 50  |
|                                                         | *   | 8         | ESCP Business School – France, Comillas ICADE Business School- Spain, EDC Paris Business School- France, Athenaeum University Bucharest- Romania, Frankfurt School of Finance and Management- Germany / Nuri ( 1402) | Thesis<br>The Dissertation                       | 51  |

## Skill Courses

Skills are classified into two categories based on their nature and requirements: “**Soft Skills**” and “**Hard Skills**”. Historically, technical skills were recognized as hard skills and were considered the only essential skill for employment. However, soft skills refer to personality traits, social attractions, language skills, personal values, attitudes, awareness and sensitivity, or an optimistic outlook (Ahmad et al., 2013). As Rawls (2012) stated, today’s workplace has shown that technical skills are not sufficient for employee retention. Therefore, attention to soft skills, which complement hard skills and are among the technical requirements of a job, is necessary, and students need to be trained in this regard (Schultz, 2008).

In this regard, some research indicates that hard skills contribute only 15% to success, while soft skills account for the remaining 85% (Verma, 2013). Therefore, it can be said that soft skills are a set of general characteristics, abilities, and skills that are essential for everyone and help a person to be effective in the workplace, life, and education, and through this influence, maximize the use of hard skills (Akbari, 1397 [2018/2019]). It is worth mentioning that despite the importance of soft skills among an organization’s

human resources, not only do the components mentioned for soft skills vary among different researchers, but there is also no single classification that comprehensively introduces them. For example, Villiers (2010) includes components such as communication skills, problem-solving and thinking skills, leadership, teamwork skills, ethical and spiritual values, and self-management as soft skills. Julie (2012) introduces more components as soft skills, including: communication skills; critical thinking and problem-solving skills, teamwork, lifelong learning, information management skills, entrepreneurial skills, ethical and professional spirit, and leadership skills. Alternatively, by examining the research of Shoka and Kumar (2017), soft skills include communication skills, leadership skills, team-building skills, strategic thinking skills, critical thinking, analytical and problem-solving skills, interpersonal skills, imagination or creativity, and presentation skills. In fact, it can be said that the reason why soft skills have multiple components in various studies is that researchers have approached these skills from different perspectives and categorized them in multiple ways. In other words, soft skills do not always have a fixed definition across different cultures, locations, and

hierarchies (Dharmarajan et al., 2012). Therefore, considering the indispensable role of learning soft skills in job improvement and the necessity of training

students in this area, the studies conducted on selected sources show these skills as presented in **Table (4)**.

**Table (4). Skill Courses Extracted from Foreign University Curricula and Related Articles**

| In the current title of Senior Auditor in Iran Is it there ? |     | Abundance | Source                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Skill name In Persian                                                                             | Row |
|--------------------------------------------------------------|-----|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----|
| No                                                           | Yes |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                   |     |
| Skills Analytical skills                                     |     |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                   |     |
| *                                                            |     | 20        | DePaul University - USA / Felsky ( 2023), E. Rafeimi ( 2019), Booker et al. (2023), Blix et al . ( 2021), Heller et al . ( 2009) , Hansen (2010), Ab Vahid and Gregg ( 2020 ) , Armitage ( 2008), Armitage and Poyzer (2010), Chan and Kogan (2016), Crawford et al. (2010), Chaffee et al . (2011), Linvi and ( 2024), Ulrich et al . (2009), Johnson et al. ( 2003), Eshani Ashari et al. (1401), Malekian et al . (1401), Poladian and Sarvestani ( 1400 ) , Nasirzadeh And the Sultan Khalifa ( 2018 ) . | Analytical thinking and problem- solving skills<br>Analytical thinking and problem solving skills | 1   |
| Communication skills                                         |     |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                   |     |
| *                                                            |     | 10        | Wang and Wang ( 2022), Irafhimi et al. (2021), Crawford et al. (2010), Chaffee et al. (2011), Eshani Ashari et al. (1401), Pouladian and Sarvestani (1400), Nasirzadeh and Khalifa Soltani (1397), Ab Vahid and Greig (2020), Sheri Anaghiz et al. (1397), Nouri (1402)                                                                                                                                                                                                                                      | Writing skills<br>Writing skills                                                                  | 2   |
| *                                                            |     | 4         | Crawford et al. ( 2010), Eshani Ashari et al. (1401), Pouladian and Sarvestani (1400), Nasirzadeh and Khalifa Soltani (1397)                                                                                                                                                                                                                                                                                                                                                                                 | Verbal skills<br>Verbal skills                                                                    | 3   |
| *                                                            |     | 3         | Eskandari ( 2013), Eshani Ashari et al. (2014), Poladian and Sarvestani (2013)                                                                                                                                                                                                                                                                                                                                                                                                                               | and art skills<br>Presentation skills and expression techniques                                   | 4   |
| *                                                            |     | 3         | DePaul University, USA / Chaffee et al. ( 2011), Nasirzadeh and Khalifa Soltani (2018)                                                                                                                                                                                                                                                                                                                                                                                                                       | Negotiation skills<br>Negotiation skills                                                          | 5   |
| *                                                            |     | 3         | Vasarhelyi et al. ( 2010), Keyvan Eskandari (2013), Poladian and Sarvestani (2014)                                                                                                                                                                                                                                                                                                                                                                                                                           | Interpersonal skills<br>Interpersonal skills                                                      | 6   |
| Other soft skills                                            |     |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                   |     |
| *                                                            |     | 6         | Iraefhimi ( 2019), Booker et al. (2023), Chafi et al. (2011), Eshani Ashari et al. (1401), Malekian et al. (1401), Pouladian and Sarvestani (1400)                                                                                                                                                                                                                                                                                                                                                           | Critical thinking<br>Critical Thinking                                                            | 7   |
| *                                                            |     | 6         | ESCP Business School – France / Blix et al . ( 2021), Eshani Ashari et al. (1401), Malekian et al. (1401) , Pouladian and Sarvestani ( 1400 ) , Nasirzadeh and Khalifah Soltani ( 1397 )                                                                                                                                                                                                                                                                                                                     | Leadership/Leadership Skills<br>Leadership/Leadership skills                                      | 8   |
| *                                                            |     | 5         | Eshani Ashari et al. ( 2012), Chafi et al. (2011), Eskandari (2013), Poladian and Sarvestani (2011), Nasirzadeh and Khalifa Soltani (2018)                                                                                                                                                                                                                                                                                                                                                                   | Teamwork<br>teamwork                                                                              | 9   |
| *                                                            |     | 4         | Eshani Ashari et al. ( 1401), Malekian et al. (1401), Pouladian and Sarvestani (1400), Nasirzadeh and Khalifa Soltani (1397)                                                                                                                                                                                                                                                                                                                                                                                 | Creativity<br>Creativity                                                                          | 10  |
| *                                                            |     | 2         | Poem by Anaghiz et al. ( 2017), Nasirzadeh and Khalifah Soltani (2018)                                                                                                                                                                                                                                                                                                                                                                                                                                       | Time management<br>Time Management                                                                | 11  |
| *                                                            |     | 1         | Blix et al. ( 2021)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Business Intelligence<br>business acumen                                                          | 12  |
| *                                                            |     | 1         | Malekian et al. ( 1401)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Continuous learning<br>Continuous learning                                                        | 13  |

| In the current title of Senior Auditor in Iran Is it there ? |     | Abundance | Source             | Skill name In Persian         | Row |
|--------------------------------------------------------------|-----|-----------|--------------------|-------------------------------|-----|
| No                                                           | Yes |           |                    |                               |     |
| *                                                            |     | 1         | Lin and Yu ( 2024) | Digital skills digital skills | 14  |

### Analysis quality control

The sixth step in meta - synthesis is to validate the research findings in this study to ensure The validity of the work is carefully reviewed by the supervisor before each stage , and their corrective comments are applied to the data before entering the next stage . The Shannon entropy method has also been used.

Shannon entropy method statistically shows the level of support for past research on extracted course topics, as well as their frequency in the curricula of the universities studied in this study . For this purpose , the frequency of each of the categories identified based on content analysis must first be determined . Then The desired frequency matrix must be normalized. For this purpose, the linear normalization method is used . Then the information load of each category must be calculated. For this purpose, the following relationship is used:

$$k = \frac{1}{\ln(a)}; a = \text{تعداد گزینه ها}$$

$$E_j = -k \sum [n_{ij} \ln(n_{ij})]$$

Finally, the importance factor of each category must be calculated. Each category with a higher information load has a higher degree of importance. For this purpose, the following relationship is used:

$$W_j = \frac{E_j}{\sum E_j}$$

Based on Shannon 's entropy analysis ( Table 8), the most important frequently repeated courses recommended for entry into the Master of Science in Auditing curriculum are , respectively , data mining and analysis , big data analysis, analytical thinking and problem - solving skills , and information technology auditing .

*Table ( 5 ) . Determining the importance and emphasis of lessons based on the sources examined*

| Rank | Importance coefficient Wj | Uncertainty Ej | $\sum P_{ij} \times knP_{ij}$ | Abundance | Code                                                    |
|------|---------------------------|----------------|-------------------------------|-----------|---------------------------------------------------------|
| 1    | 0.6979                    | 0.25           | 0.0287                        | 23        | Data mining , analysis and big data analytics           |
| 2    | 0.6845                    | 0.249          | 0.0067                        | 20        | Analytical thinking skills and problem solving          |
| 3    | 0.6607                    | 0.814          | 0.0081                        | 19        | Information Technology Audit                            |
| 4    | 0.6145                    | 0.6254         | 0.209                         | 19        | Ethics (Code of Professional Conduct ) in Auditing      |
| 5    | 0.5814                    | 0.25           | 0.0132                        | 16        | Fraud audit                                             |
| 6    | 0.5478                    | 0.791          | 0.209                         | 17        | Risk Management                                         |
| 7    | 0.5152                    | 0.7145         | 0.2855                        | 11        | Internal Audit                                          |
| 8    | 0.5267                    | 0.6755         | 0.1149                        | 12        | Application of the Laws and regulations in auditing     |
| 9    | 0.4459                    | 0.6254         | 0.0081                        | 13        | Audit Information Systems                               |
| 10   | 0.3964                    | 0.913          | 0.209                         | 12        | Applied statistics ( quantitative methods ) in auditing |
| 11   | 0.3668                    | 0.875          | 0.0132                        | 8         | The end of the letter                                   |
| 12   | 0.301                     | 0.8851         | 0.1149                        | 10        | Management Accounting                                   |
| 13   | 0.2744                    | 0.7694         | 0.0067                        | 12        | Analysis and analysis of financial statements           |
| 14   | 0.2312                    | 0.9212         | 0.0297                        | 6         | Leadership / Leadership Skills                          |
| 15   | 0.224                     | 0.9237         | 0.1149                        | 6         | Critical thinking                                       |
| 16   | 0.2003                    | 0.889          | 0.111                         | 12        | International Accounting                                |
| 17   | 0.1728                    | 0.9621         | 0.0081                        | 4         | Computer Programming Fundamentals                       |
| 18   | 0.1633                    | 0.8247         | 0.125                         | 3         | Audit research                                          |

| Rank | Importance coefficient $W_j$ | Uncertainty $E_j$ | $\sum P_{ij} \times knP_{ij}$ | Abundance | Code                                                                            |
|------|------------------------------|-------------------|-------------------------------|-----------|---------------------------------------------------------------------------------|
| 19   | 0.1529                       | 0.9665            | 0.0249                        | 1         | Advanced English language                                                       |
| 20   | 0.1528                       | 0.9665            | 0.0249                        | 1         | Blockchain                                                                      |
| 21   | 0.1513                       | 0.8346            | 0.0067                        | 4         | Government Audit                                                                |
| 22   | 0.1459                       | 0.9457            | 0.0229                        | 1         | Digital skills                                                                  |
| 23   | 0.1425                       | 0.9131            | 0.0788                        | 5         | Teamwork                                                                        |
| 24   | 0.1373                       | 0.8229            | 0.0763                        | 3         | Auditing theory                                                                 |
| 25   | 0.1299                       | 0.8034            | 0.0306                        | 5         | Application of artificial intelligence in auditing                              |
| 26   | 0.1281                       | 0.9211            | 0.0219                        | 10        | Corporate governance                                                            |
| 27   | 0.1246                       | 0.9232            | 0.02146                       | 2         | Applied econometrics                                                            |
| 28   | 0.1146                       | 0.9365            | 0.0635                        | 3         | Forensic Accounting                                                             |
| 29   | 0.1138                       | 0.975             | 0.1247                        | 1         | Financial audit                                                                 |
| 30   | 0.1122                       | 0.8553            | 0.1292                        | 10        | Professional Internship / Audit Practical Courses                               |
| 31   | 0.1057                       | 0.8637            | 0.1966                        | 3         | Legal Inspector                                                                 |
| 32   | 0.1034                       | 0.9131            | 0.0293                        | 3         | Negotiation skills                                                              |
| 33   | 0.1015                       | 0.889             | 0.023                         | 4         | Familiarity with the application of auditing in various industries              |
| 34   | 0.0899                       | 0.9694            | 0.1352                        | 7         | Business Unit Valuation and assets                                              |
| 35   | 0.0893                       | 0.8648            | 1                             | 5         | Research Method in Auditing                                                     |
| 36   | 0.0874                       | 0.9516            | 0.0484                        | 4         | Management control                                                              |
| 37   | 0.0857                       | 0.9478            | 0.0486                        | 2         | Entrepreneurship                                                                |
| 38   | 0.0857                       | 0.9478            | 0.0426                        | 3         | Interpersonal skills                                                            |
| 39   | 0.0853                       | 0.8708            | 0.0235                        | 5         | Current Issues in Auditing                                                      |
| 40   | 0.0834                       | 0.9105            | 0.0297                        | 4         | Creativity                                                                      |
| 41   | 0.0825                       | 0.9543            | 0.0457                        | 1         | Water market                                                                    |
| 42   | 0.0824                       | 0.9492            | 0.0263                        | 2         | Accounting theory                                                               |
| 43   | 0.0778                       | 0.9703            | 0.0297                        | 10        | Strategic Management                                                            |
| 44   | 0.0749                       | 0.9538            | 0.0234                        | 1         | International Economics                                                         |
| 45   | 0.0716                       | 0.9563            | 0.0214                        | 1         | Business intelligence                                                           |
| 46   | 0.0644                       | 0.9781            | 0.0214                        | 10        | Writing skills                                                                  |
| 47   | 0.0633                       | 0.961             | 0.0214                        | 2         | Familiarity with the topics of the Society of Certified Public Accountants exam |
| 48   | 0.0621                       | 0.9478            | 0.0136                        | 4         | Corporate Finance                                                               |
| 49   | 0.0621                       | 0.9478            | 0.02364                       | 3         | Presentation and articulating skills                                            |
| 50   | 0.052                        | 0.9563            | 0.0264                        | 3         | Business Management                                                             |
| 51   | 0.0458                       | 0.9409            | 0.0276                        | 3         | Your finances are advanced .                                                    |
| 52   | 0.0355                       | 0.9619            | 0.0345                        | 4         | Social Responsibility Audit and corporate sustainability report                 |
| 53   | 0.0346                       | 0.9868            | 0.0132                        | 1         | Continuous learning                                                             |
| 54   | 0.0268                       | 0.9707            | 0.0256                        | 4         | Operational audit                                                               |
| 55   | 0.0237                       | 0.9919            | 0.0247                        | 7         | Auditing application software                                                   |
| 56   | 0.0215                       | 0.9764            | 2458                          | 4         | Project Management                                                              |
| 57   | 0.0212                       | 0.9919            | 0.0081                        | 1         | International Law                                                               |
| 58   | 0.0194                       | 0.9707            | 0.0264                        | 5         | Data entry And the poison of the fire                                           |
| 59   | 0.0176                       | 0.9773            | 0.027                         | 3         | Current topics in accounting                                                    |
| 60   | 0.0175                       | 0.9932            | 0.0067                        | 3         | Familiarity with schools of thought and political science                       |
| 61   | 0.0152                       | 0.977             | 0.027                         | 5         | Advanced Audit                                                                  |
| 62   | 0.014                        | 0.9849            | 0.0154                        | 3         | Asset Management                                                                |
| 63   | 0.0131                       | 0.9857            | 0.0245                        | 2         | Time management                                                                 |
| 64   | 0.0113                       | 0.9975            | 0.0654                        | 1         | Foundations of Philosophy                                                       |

| Rank | Importance coefficient W <sub>j</sub> | Uncertainty E <sub>j</sub> | $\sum P_{ij} \times knP_{ij}$ | Abundance | Code          |
|------|---------------------------------------|----------------------------|-------------------------------|-----------|---------------|
| 65   | 0.005                                 | 0.9946                     | 0.0145                        | 4         | Verbal skills |

## 5. Discussion and Conclusion

assurance, and automated control systems. In today's digital auditing ecosystem, reliance on traditional checklist-based and paper-intensive approaches undermines efficiency and relevance. The adoption of software-based audit tools and system-embedded internal controls is no longer optional but a professional necessity.

Ethics in auditing—particularly the Code of Professional Conduct—emerged as another critical component. Given the increasing instances of unethical competition and client-driven bias in the Iranian auditing landscape, the inclusion of a dedicated ethics course is crucial for shaping graduates' professional judgment and moral sensitivity. This emphasis reflects the psychological and behavioral dimension of curriculum theory, ensuring that cognitive learning is integrated with affective and ethical development.

Other recommended courses include Fraud Auditing, Risk Management, and Legal Applications in Auditing, all of which strengthen professional competence and reflect the multidisciplinary nature of modern auditing (Echtenbruck et al., 2025; Borchers, 2025). A salient finding across all categories is the absence of soft-skill training in the current auditing programs. The lack of communication, teamwork, creativity, and leadership skills among graduates represents a significant barrier to employability and professional advancement. Incorporating skill-based and competency-driven education—through workshops, simulation labs, and continuing professional development programs—aligns with both learning theory and psychological foundations, promoting lifelong learning and self-efficacy among students.

Given the extensive number of newly identified courses, the study recommends that not all be integrated as core components. Instead, universities should classify them as elective courses, while professional bodies such as the Iranian Association of Certified Public Accountants and the Supreme Audit Court offer short-term certification programs to deliver the remaining competencies. Finally, in alignment with

curriculum design theory, the study advocates for a decentralized and agile approach to curriculum updating. The Ministry of Science should authorize leading universities in each province to independently revise and implement curriculum updates without the protracted bureaucratic delays that currently impede innovation. Such flexibility will accelerate responsiveness to technological change, promote regional specialization, and ensure that Iranian auditing education remains globally competitive and future-read.

## References

- Ab Wahid, R. and Grigg, N.P. (2021), A draft framework for quality management system auditor education: findings from the initial stage of a Delphi study, *The TQM Journal*, 33(6), 1373-1394.
- Ahmed, F., Capretz, L., Bouktif, S., & Campbell, P. (2013). Soft skills and software development: A reflection from the software industry. *International Journal of Information Processing and Management*, 4(3), 171-191.
- Akbari Z. (2018). The Need to Develop and Incorporate the Soft Skills (General) Courses into the Educational Curriculum of Medical Sciences' students. *jmed*, 13 (2), 114-139
- Antcliff, M., Doren, R., Harris, L., & Hayes, D. C. (2012). A case to provide students practice in basic and advanced functions of IDEA software. *AIS Educator Journal*, 7(1), 69-73
- Arens, A., & Elder, R. (2006). Perspectives on auditing education after Sarbanes-Oxley. *Issues in Accounting Education*, 21(4), 345-362. doi:10.2308/iace.2006.21.4.345.
- Armitage, J. (2008). Changes in the importance of topics in auditing education: 2000-2005. *Managerial Auditing Journal*, 23(9), 935-959
- Armitage, J., & Poyzer, J. K. (2010). Academicians' and practitioners' views on the importance of the topical content in the first auditing course. *American Journal of Business Education*. 3(1), 71-82

- Asadi, Mortada (1401), the origins of the Hassabrs letter and its formation, Nihad Nazer, *Hassabrs*, 121, 70-77.
- Baghoomian, R., Rahimi Baghi, A. (2011). The Barriers of Accounting Education Development in Iran, *Empirical Studies in Financial Accounting*, 9(35), 69-91 .(in persian).
- Barac, K., Kirstein, M., Kunz, R., & Beukes, B. (2016). Factors influencing students' learning approaches in auditing. *Meditari Accountancy Research*, 24(3), 390-413.
- Blix, L. H., Edmonds, M. A., & Sorensen, K. B. (2021). How well do audit textbooks currently integrate data analytics. *Journal of Accounting Education*, 55, 100717.
- Blouch, W., Ulrich, T., & Michenzi, A. (2015). A CPA perspective of a contemporary auditing curriculum: Helping to keep it relevant. *Journal of Business and Accounting*, 8(1), 88-101.
- Booker, D., Pelzer, J., & Richardson, J. R. (2023). Integrating data analytics into the auditing curriculum: Insights and perceptions from early-career auditors. Available at SSRN 4362640.
- Borchers, C. (2025). *Toward sufficient statistical power in algorithmic bias assessment: A test for ABROCA*. Proceedings of the Educational Data Mining Conference 2025. <https://educationaldatamining.org/edm2025/accepted-papers/>
- Bryan, B. J., & Smith, L. M. (1997). Faculty perspectives of auditing topics. *Issues in Accounting Education*, 12(1), 1-14.
- Chaffey, J., Van Peurse, K. A., & Low, M. (2011). Audit education for future professionals: Perceptions of New Zealand auditors. *Accounting Education: An International Journal*, 20(2), 153-185.
- Chan, D. Y., & Kogan, A. (2016). Data Analytics: Introduction to Using Analytics in Auditing. *Journal of Emerging Technologies in Accounting*, 13(1), 121-140.
- Chen, Y.-S., Yang, C.-C., & Yang, Y.-F. (2020). Higher academic qualifications, professional training and operating performance of audit firms. *Sustainability*, 12(3), 1254.
- Chu, C. H., & Zhong, Y. (2023). Exploration of teaching reform in the "Government Auditing" course from the perspective of curriculum ideology and politics. *Journal of BCP Business & Management*, 49, 673-680
- Crawford, L., Helliard, C., & Monk, E. A. (2011). Generic skills in audit education. *Accounting Education: An International Journal*, 20(2), 115-131
- De Villiers, R. R., & Fouché, J. P. (2015). The effectiveness of teaching methodologies in audit education: A student perspective. *South African Journal of Higher Education*, 29(6), 58-77.
- Dharmarajan, R., Pachigalla, R., & Lanka, K. (2012). The significance of inculcating soft skills in the process of teaching hard skills. *International Journal of Applied Research and Studies*, 1(2), 1-11.
- Dianati Deilami, Z. (2019). Model of effective factors of accounting growth in Iran. *Knowledge of Accounting and Management Audit*, 9(36), 323-358.(in persian).
- Dianati Deilami, Z., noori, M. M., Abbasian, H. (2024). 'External Quality Assessment of Auditing Master's Curriculum in Iran: Perspectives from Graduates employer, *Professional Auditing Research*, 4(15),126-162. (in persian).
- Dierynck, B., Kadous, K., & Peters, C. P. H. (2023). Learning in the auditing profession: A framework and future directions. Accounting, Organizations and Society. <https://doi.org/10.2139/ssrn.3496805>, <https://doi.org/10.1016/j.aos.2023.101534>
- Eskandari, K. (2012). Teaching auditing and digital economy with real-time processing, *Auditor Magazine*, 68 :124-132.(in persian).
- Esna Ashari, H; A. Gholami Fatideh & A. Houshmand.(2021). Educational gap and audit quality. *Financial Accounting Knowledge*, 9(4):95-121.(in persian).
- Etemadi Hossein, (1998). Identifying factors and obstacles to the growth of accounting education in Iran and presenting an efficient and effective program. Doctoral dissertation in accounting, *Tarbiat Modares University*, Tehran. .(in persian).
- Fathi Vajargah, K, Shafii, N. (2006). Evaluation of university curriculum quality (case of adult education curriculum). *Curriculum Studies*, 2(5), 1-26. .(in persian).

- Feder, M. (2024, April 22). Educational learning theories and how to apply them. University of Phoenix.  
<https://www.phoenix.edu/articles/education/educational-learning-theories.html>
- Felski, E. (2023). Audit technologies used in practice and ways to implement these technologies into audit courses. *Journal of Accounting Education*, 62, 100827.
- Fogarty, T. J. (2024). *The big data crossroads: Accounting education and the academy. Advances in Accounting Education*, 34, 15–32
- Garcia-Benau, M. A., & Zorio, A. (2013). Entry requirements to the auditing profession: A need for harmonisation. *Global Business Perspectives*, 1, 122–131. 0
- Giles, K. M. (2019). How artificial intelligence and machine learning will change the future of financial auditing: An analysis of The University of Tennessee's accounting graduate curriculum. Chancellor's Honors Program Projects
- Greenstein, M., & McKee, T. E. (2004). Assurance practitioners' and educators' self-perceived IT knowledge level: An empirical assessment. *International Journal of Accounting Information Systems*, 5(2), 213–243.
- Chae, S. J., Nakano, M., & Fujitani, R. (2020). Financial reporting opacity, audit quality and crash risk: Evidence from Japan. *The Journal of Asian Finance, Economics, and Business*, 7(1), 9–17.
- Chen, L. (2021). Research on Teaching Reform of University Audit Against the Background of Internet Plus. *Advances in Economics, Business and Management Research. Advances in Economics, Business and Management Research*, 185(1), 675–679.
- Golen, S. P., & White, R. A. (1983). Communicating effectively with clients. *The CPA Journal* (pre-1986), 53(12), 12.32.
- Coşkun Yaşar, G., & Aslan, B. (2021). Curriculum theory: A review study. *International Journal of Curriculum and Instructional Studies*, 11(2), 237–260
- Curtis, M., Jenkins, J., Bedard, J., & Deis, D. (2009). Auditors' training and proficiency in information systems: A research synthesis. *Journal of Information Systems*, 23, 79–96.
- DiGabriele, J. A. (2009). Implications of regulatory prescriptions and audit standards on the evolution of forensic accounting in the audit process. *Journal of Applied Accounting Research*. 19(2). 13–25.
- Echtenbruck, M. M., Fühles-Ubach, S., Naujoks, B., & Kaliva, E. (2025). *A data literacy competence model for higher education and research. arXiv preprint* *arXiv:2504.15690*.  
<https://arxiv.org/abs/2504.15690>
- Hansen, J. C. (2010). Where were the auditors? Using AAERs in introductory or advanced auditing courses. *Journal of Accounting Education*, 28(2), 114–127.
- Helliar, C., Monk, E., & Stevenson, L. (2009). The development of trainee auditors' skills in tertiary education. *International Journal of Auditing*, 13(3), 185–202.
- Hidayat, L. A., Rahmatullah, A. S., & Suyudi, M. (2023). Basic concepts of psychological foundations of curriculum development. *International Journal of Humanities, Social Science and Management (IJHSSM)*, 3(5), 322–336.
- Irafahmi, D. T. (2019). Assessing the relevance of undergraduate auditing education: A scoping review. *Journal of Accounting and Business Education*, 4(1), 11–23.
- Irafahmi, D. T., Williams, P. J., & Kerr, R. (2021). Written communication: The professional competency often neglected in auditing courses. *Accounting Education*, 30(3), 304–324.
- Johnson, E., Baird, J., Caster, P., & Dilla, W. (2003). Challenges to audit education for the 21st century: A survey of curricula, course content, and delivery methods. *Issues in Accounting Education*, 18(3), 241–263.
- Jolly, S. S. (2012). Developing soft skills for enhancing employability of engineering graduates. *International Journal of Engineering and Management Research*, 2(5), 54–56.
- Juma'h, A. H., Boumediene, S., & Blankenberger, B. (2025). Progressing student learning in auditing analytics: The impact of continuous feedback on learning outcomes. *Journal of International Education in Business*.  
<https://doi.org/10.1108/JIEB-09-2024-0116>

- Kalita, E. (2025). *Educational data mining: A 10-year review. Education and Information Technologies*, 30(1), 1–20
- Khamees, T. (2020). Trends in developing the accounting and auditing profession in Egypt in light of the relevant legislation. **Cairo**, Egypt: Tweet House for Publishing and Distribution.
- Lin, R. (2021). Construction of Information Auditing Curriculum for Auditing Major in Big Data Era. *Application of Intelligent Systems in Multimodal Information Analytics*. 18(129), 714–719
- Lin, Q., & Yu, Y. (2024, March). Construction and Discussion of Auditing Curriculum System under the Background of Digital Intelligence. *International Conference on Educational Science and Social Culture*. <https://doi.org/10.1051/shsconf/202418702011>
- Liu, B., Xia, J., Du, M., & Sui, L. (2021, May). Auditing Teaching Reform Based on Ideological and Political Theories. In 2021 *2nd International Conference on Computers, Information Processing and Advanced Education*. 331-335.
- Maleki Iskoui, King of Taj. (2022). Computer Accounting in a New Era: Its Advantages and Limitations. *The first conference room in Baydar*, in the city of Manufacturers and Administration, Isfahan.
- Malekian, E., Kamyabi, Y., Ebrahimi, H. (2022). Presenting a model to improve the quality and skill of the auditor from the perspective of the profession and the employer, *Experimental Accounting Research*, 3(12), 281-300
- McCartney, M. W., Marden, R. E., & Adair, L. P. (2002). Topical coverage in internal auditing: academic versus practitioner perceptions. *Accounting Education*, 11(4), 311-329.
- Munna, A. S., & Kalam, M. A. (2021). Application of theories, principles and models of curriculum design: A literature review. *International Journal of Multidisciplinary and Current Educational Research*, 3(1), 147–153.
- Nasirzadeh, F. & N. Khalifa Soltani. (2017). Identifying the skills, knowledge and attitudes required for today's auditors. *Economics studies, financial management and accounting*, (1) 4, 44-65. (in persian).
- Nasirzadeh, M., & Khalifeh Soltani, S. (2018). Expectation gap between academia and auditing profession in Iran. *Journal of Accounting Research*, 11(2), 101–120. (in persian).
- Noravesh, R. I., Mashayekhi, B. (2005). Management Accounting Educational Needs and Priorities: The Perceptual Gap Between Academics and Practitioners in the Accounting Profession', *Accounting and Auditing Reviews*, 12(3), 133-161. (in persian).
- Norman, S. N. & Abdul Latiff, A. R., & Mohd Said, R. (2018). Employers Perception on Skill Competencies and the Actual Performance of Bachelor of Accounting Graduates in Malaysia. *International Academic Journal of Accounting and Financial Management*, 5 (3), 88-95.
- Norman, C. S., Rose, A. M., & Rose, J. M. (2018). Bridging the expectation gap: Enhancing auditor education. *Accounting Education: An International Journal*, 27(3), 221–246.
- Papadogiannis, I. (2024). *Educational data mining: A foundational overview. Journal of Educational Data Mining*, 4(4), 108–120
- Poladian, F. & A. Sarvestani. (2021). Soft skills of accounting graduates to enter the auditing profession: the missing link of accounting and auditing education in the university, *the third national conference of knowledge management and electronic businesses with a resistance economy approach*, Mashhad. (in persian).
- Reinstein, A., Churyk, N. T., & Tate, S. L. (2018). Analyzing pedagogical approaches used in second auditing courses, *Advances in Accounting*, 42, 110-124
- Robles M. M. (2012). Executive Perceptions of the Top 10 Soft Skills Needed in Today's Workplace. *Business Communication Quarterly*, 75(4):453-465.
- Sheeri Anaghiz, S. N., Rahimian, J., Salehi, & A. Khorasani. (2017). Educational needs assessment and identification of independent auditors' skills; Financial managers and financial analysts of Iran based on the Katz model. *Human Resources Education and Development*. Number 13 of Course Four. (in persian).
- Siriwardane, H. P. Kin Hoi Hu, B. Yew Low, K. (2014). Skill, knowledge and attitudes important for present-day auditors, *Internal journal of auditing*, 1-13

- Schulz B. (2008). The importance of soft skills: Education beyond academic second auditing courses. *Advances in Accounting*, 42, 110-124.
- Shukla, A., & Kumar, G. (2017). Essential soft skills for employability—a longitudinal study. *Advances in Economics and Business Management*, 4(6), 362-367.
- Sledgianowski, D., Gomaa, M., & Tan, C. (2017). Toward integration of Big Data, technology and information systems competencies into the accounting curriculum. *Journal of Accounting Education*, 38, 81-93
- Treagust, D.F., & Chandrasegaran, A.L. (2007). The Taiwan national science concept learning study in an international perspective. *International Journal of Science Education*, 29(4), 391-403.
- Trigwell, K., & Chandrasegaran, S. (2007). Teaching for critical thinking in accounting. *International Journal of Educational Research*, 46(6), 431–441.
- Ulrich, T. , Michenzi, A. , & Blouch, W. (2009). An Importance-Effectiveness Analysis of The Contemporary Auditing Course, *Journal of Accounting and Business Education*,4(1),11-23.
- Uyar, Ali & Gungormus, Ali. (2011). Professional Knowledge and Skills Required for Accounting Majors Who Intend to Become Auditors: Perceptions of External Auditors. *Business and Economics Research Journal*. 2. 33-33.
- Vasarhelyi, M. A. , Teeter, R. A. , & Krahel, J. P. (2010). Audit Education and the Real-Time Economy. *Issues in Accounting Education*, 25, 405-423.
- Verma Sh. (2013). Personality development & soft skills for class XI, first edition.
- Villiers RD. (2010). The incorporation of soft skills into accountingcurricula: preparing accounting graduates for their unpredictable futures,*Meditari Accountancy Research*, 18,1-22
- Wang, J., & Yang, J. G. (2009). Data mining techniques for auditing attest function and fraud detection. *Journal of Forensic& Investigative Accounting*, 1(1), 1-24.
- Wang, X., & Wang, Y. (2022). Undergraduate students' perception of audit course: Based on the interview of accounting students. Proceedings of the 2022 *International Conference on Social Sciences and Humanities and Arts (SSHA 2022)*. <https://doi.org/10.2991/assehr.k.220401.137>
- Wang, S., & Yang, D. (2009). The application of data mining in auditing. *Journal of Modern Accounting and Auditing*, 5(11), 53–58.
- Webb, J., Chaffer, C. (2016). The expectation performance gap in accounting education: A review of generic skills development in UK accounting degrees. *Accounting Education*, 25(4), 349–367.
- Weirich, T., Tschakert, N., Kozlowski, S,. (2018). Teaching Data Analytics Skills in Auditing Classes Using Tableau. *Journal of Emerging Technologies in Accounting*, 15 (2): 137–150.
- Yang, Y. (2022). Study on AI Audit Mode in the Background of Machine Learning and Internet of Things. *Security and Communication Networks*,2022(1),1-6
- Yassin, M. M. (2024). *Innovative approaches to accounting education: Incorporating business intelligence tools*. *Journal of Accounting Education*, 42, 100–115
- Zhang, C. A., Dai, J., Vasarhelyi, M. A. (2018). The impact of disruptive technologies on accounting and auditing education: How should the profession adapt? *The CPA Journal*, 88(9), 20–26.