

<b>Course title:</b> Emerging Technologies and Business Application				
<b>Course code:</b> SEC 104		<b>No. of credits:</b> 2	<b>L-T-P:</b> 20-10-00	<b>Learning hours:</b> 30
<b>Pre-requisite course code and title (if any):</b> None				
<b>Department:</b> Policy and Management Studies				
<b>Course coordinator(s):</b> Dr. Moumita Acharya			<b>Course instructor(s):</b> Dr. MKP Naik	
<b>Contact details:</b>				
<b>Course Type:</b> Core			<b>Course offered in:</b> Semester 2	
<b>Course Description</b>				
<p>The Emerging Technology and Business Applications course offers BBA students an in-depth exploration of the evolution and impact of technology in the business world. Starting with the history of industrial revolutions, this course traces the journey from early mechanical innovations in Industry 1.0 to the advanced, interconnected systems of Industry 4.0. Students will examine foundational technologies like computer systems, networks, and databases that form the backbone of business operations, as well as cutting-edge technologies like Artificial Intelligence, IoT, Blockchain, and Cloud Computing that are reshaping today's business landscape.</p> <p>Through each module, students will gain an understanding of how these technologies enhance operational efficiency, support decision-making, and enable competitive advantages in various industries. The course also emphasizes the adoption and implementation of technology in business settings, addressing the benefits and challenges that accompany digital transformation. The final module highlights the ethical, social, and security implications of emerging technologies, preparing students to navigate and manage these considerations responsibly.</p> <p>By completing this course, students will be well-prepared to evaluate, integrate, and leverage both foundational and emerging technologies in modern business contexts, equipping them to become effective leaders in a rapidly advancing digital economy.</p>				
<b>Course objectives</b>				
<p>The objective of this course is to equip BBA students with a comprehensive understanding emerging technologies, enabling them to evaluate and apply these tools effectively within modern business environments. By examining the technological evolution from early industrial advances to the latest digital innovations, students will gain insights into how technology drives business transformation, efficiency, and competitive advantage.</p> <ul style="list-style-type: none"> <li>• Understand the historical evolution of technology, from Industry 1.0 to Industry 4.0, and its impact on business applications.</li> <li>• Develop foundational knowledge of essential business technologies, such as computer systems, databases, and networks, and their roles in supporting business operations.</li> <li>• Explore emerging technologies, including Artificial Intelligence, IoT, Blockchain, and Cloud Computing, and their transformative potential across different business functions.</li> <li>• Analyze how technology enhances business efficiency, operational effectiveness, and decision-making, using real-world case studies and examples.</li> <li>• Assess the factors influencing technology adoption in business, including cost, scalability, and organizational readiness.</li> <li>• Examine the ethical, social, and security implications of emerging technologies, addressing challenges related to data privacy, cybersecurity, and societal impact.</li> </ul>				
<b>Course content</b>				
<b>Module</b>	<b>Topic</b>	<b>L</b>	<b>T</b>	<b>P</b>
1	<b>History and Evolution of Technology in Business</b> Overview of industrial revolutions from Industry 1.0 to Industry 4.0, key technological advancements in each phase, transition from manual to automated processes, introduction to digital transformation, the role of technology in enabling globalization and competitive advantage, understanding business applications of technology evolution.	4	2	0
2	<b>Foundational Technologies and Business Applications</b>	4	2	0

	Computer systems and networks, database management basics, office productivity software, data storage and digital communication tools, evolution of foundational business applications (ERP, CRM), transition of foundational tech into new technologies, foundational tech in supporting data management, operational efficiency, and communication in businesses.			
3	<b>Emerging Technologies and Their Business Applications</b> Introduction to Industry 4.0 technologies, Artificial Intelligence (AI), Internet of Things (IoT), Blockchain, Cloud Computing, Machine Learning, Robotics, use cases of emerging tech in finance, marketing, supply chain, retail, and customer service, how these technologies transform business models and decision-making processes, integration of these technologies in strategic planning.	4	2	0
4	<b>Enhancing Business Efficiency and Technology Adoption</b> Operational efficiency through automation, data-driven decision-making, customer engagement improvements with technology, key considerations for technology adoption (cost, scalability, ROI, alignment with business goals), real-world examples of successful technology adoption, case studies on barriers to adoption and overcoming challenges in implementation.	5	2	0
5	<b>Ethical, Social, and Security Implications</b> Data privacy and cybersecurity, ethical implications of AI and automation, social impacts, security considerations in digital transformation, regulatory and compliance requirements, and the responsibility of businesses in using technology ethically, sustainable technology practices.	3	2	0
	<b>TOTAL</b>	<b>20</b>	<b>10</b>	<b>00</b>
<b>Evaluation criteria:</b> The break-up of the evaluation procedure is as follows: <ul style="list-style-type: none"> <li>▪ Minor Test 1: Assignment/Written Examination (Module 1,2 &amp; 3): 30%</li> <li>▪ Minor Test 2: Assignment/Written Examination (Module 4 &amp; 5): 30%</li> <li>▪ Major Exam : Written Examination (Module 1-9): 40%</li> </ul>				
<b>Learning outcomes:</b> After successful completion of the course, students will be able to: <ul style="list-style-type: none"> <li>▪ Comprehend the historical progression of technology, from Industry 1.0 through Industry 4.0, and its influence on business applications and practices.</li> <li>▪ Demonstrate foundational knowledge of essential business technologies in supporting day-to-day business operations.</li> <li>▪ Examine emerging technologies and assess their potential to transform business models and strategies.</li> <li>▪ Evaluate the benefits and challenges of technology adoption in various business scenarios.</li> <li>▪ Discuss the ethical, social, and security implications of emerging technologies in business.</li> </ul>				
<b>Pedagogical approach</b> The course will be delivered through lectures. Real world examples, case studies, flip classroom approach would also be a part of the pedagogical approach for the course.				
<b>References:</b> Textbooks: 1. Emerging Technology   by Dr. Sanjay Sharma, Khanna Publishers				
<b>Additional Readings:</b> 1. Emerging Technologies: Theories, Futures, Provocations   by Steve Jones & Nicholas Bowman, Peter Lang Inc 2. Emerging Technologies / Life at the Edge of the Future   by Sarah Pink, Routledge 3. Emerging technologies unveiled   Dr. Soniya Gupta et al., Anvi books & publishers				

<b>Additional information (If any):</b> None
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<b>Student responsibilities:</b> Attendance, timeline adherence for assignments, come prepared according to the session plan and as when provided.
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**Prepared by:** Dr. Anand Jaiswal

**Course reviewers:**

1. Dr. Vinaytosh Mishra, Associate Professor and Director, Thumbay Institute of AI in Healthcare, Gulf Medical University, Ajman, UAE
2. Dr. Cherian Samuel, Associate Professor, Indian Institute of Technology (BHU), Varanasi, UP